

P. L. L.
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co, Cal
4102

WESTERN INDUSTRY



• Waste pulp liquor in Western mills now is converted into chemicals for re-use and to provide fuel. For details see page 5.

JULY

1950

VOLUME XV
NUMBER 7

✓ How to do business with Uncle Sam and make money. New deal for Westerners. p. 31

✓ Your industrial movies can be made inexpensively in your own plant. Look on p. 42

✓ Materials handling can be an economic ally if you know how and when to use it. p. 38

✓ Good paint jobs need more than a spray gun. Controlled atmosphere is the secret. p. 36

There's more to a Wirebound box
than wood, wire and price!

Experience, manufacturing facilities and container know-how result in sound engineering, prompt service, dependability. Cabco has been manufacturing wooden containers since 1883. Facilities embrace every operation from logging to the finished wirebound. Cabco is the West's recognized leader in designing, developing and supplying wooden shipping containers.



NEW CABCO WIREBOUND SOLVES FIREBRICK EXPORT PROBLEM

The export shipment of large quantities of firebrick posed a tough container problem to Kaiser Aluminum & Chemical Company. A nailed crate first used was slow and difficult to pack, and had a net weight of over 30 pounds.

Cabco engineers designed a sturdy wirebound that reduced container weight to under 20 pounds, yet snugly, securely contained over 400 pounds of firebrick. The new wirebound also saved on labor costs, since it proved much easier and faster to load, handle and palletize. In addition, there was a saving in storage space.



Perhaps there is a new use for light, strong Cabco wirebounds in your business.

Cabco wirebounds fold up quickly, easily, ready for immediate use on the packing line.

CABCO CONTAINERS

A product of the California Barrel Company, Ltd.

Sold only through

DUFF CALIFORNIA CO.

100 Bush Street, San Francisco 4, California
2581 E. Eighth Street, Los Angeles 23, California
501 Dooley Building, Salt Lake City 1, Utah



HELPING RB&W'S DISTRIBUTORS SERVE WESTERN INDUSTRY BETTER

Distributors serving Western industry need the backing of nearby, modern production facilities.

To provide this support for our distributors and at the same time to become a more integral part of Western industry, Russell, Burdsall & Ward Bolt and Nut Company opened its California plant on Nov. 19, 1946. From that date to January 1, 1950, an additional investment of more than a million dollars has been made in improved and expanded facilities of the very latest design.

This big, modern plant is built on RB&W's 105 years of fastener know-how and experience and it is assurance that your fastener needs will be met quickly and completely.

When ordering bolts, nuts, screws, rivets or other fasteners from your distributor, be sure you get "True Fastener Economy" by specifying RB&W. Russell, Burdsall & Ward Bolt and Nut Company, 4466 Worth Street, Los Angeles, Calif.

RB&W THE COMPLETE QUALITY LINE
105 YEARS MAKING STRONG THE THINGS
THAT MAKE AMERICA STRONG

Plants at: Port Chester, N. Y., Coraopolis, Pa., Rock Falls, Ill., Los Angeles, Calif. Additional sales offices at: Philadelphia, Detroit, Chicago, Chattanooga, Dallas, Oakland. Sales agents at: Portland, Seattle. Distributors from coast to coast.





BWH AIR "BROOM" SPEEDS UP TEXTILE MILL HOUSECLEANING

Here's an air hose that's specially engineered for the textile industry. BULL DOG TEXTILE AIR HOSE *whisks* lint and waste materials from spools, spinners, tenterers, etc. . . speeds up cleaning operations . . . saves man and machine hours.

Easy-to-handle BWH BULL DOG TEXTILE AIR HOSE has black, non-porous, age-resistant tube. Strong, braided rayon carcass makes this hose lightweight and

flexible . . . yet it carries working pressures of from 200 to 300 pounds! Smooth red synthetic rubber cover is resistant to abrasion, and to vegetable and mineral oils . . . a terrific advantage in textile mills!

★ ★ ★

HAVE YOU A JOB WHERE STAMINA COUNTS? Bring us your toughest problems. We're specialists in solving them. Consult your nearest BWH distributor or write us direct.

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This Month in WESTERN INDUSTRY

VOLUME XV

JULY • 1950

NUMBER 7

Editorial Page 19

Industrialists vs. Industries
This May Be the Solution
One Proof of Immortality

Articles

Now You Can Supply Uncle Sam's Needs and Make Money At It . . .	31
Spray Paint Finishing Improved by Controlled Humidified Air . . .	36
Materials Handling Lesson in a Northwest Lumber Operation . . .	38
Quartermaster General Outlines Benefits to Western Businessmen . .	41
Put Your Product in the Movies: It's Cheaper Than You Think . . .	42
An Evaluation of the Western Apprenticeship Conference	44
Machine Load Efficiency: How Much of It Is There in Your Plant? . .	46
Soft Water Is the Answer to Some Hard Plant Problems	52

Departments

Mail Box	19
Western Outlook: News and Statistics	23
West on Its Way	59
New Equipment	66
New Literature	69
Films and Filmstrips	70
Book Reviews	71
Westerners at Work	72
Trade Winds	76

Advertiser's Index 82

Front Cover

To pour waste liquor from pulp and paper mills into the waterways not only means a loss of possible by-products, but also sets up a pollution problem. Weyerhaeuser's answer at their Longview, Washington sulphite mill was to recover magnesium oxide for fuel and for re-use in processing.

Starting with this issue, the publication date of *Western Industry* will be the 10th of the current month.



Different from any other

Just as thumbprints have distinctive characteristics, so do steel producers differ in important ways...

For example, because Kaiser Steel is the West's only integrated *independent* steel plant, it offers unique advantages to western manufacturers...

Complete control of quality at every step... from the mining of coal and iron ore to the production of finished steel.

Plus service that cuts delivery time by as much as one-half... thus enabling manufacturers to expand production.

Plus the most modern facilities producing a wide range of products.

Combine this with a record for dependability that is unsurpassed in the industry and you have the answer to why Kaiser Steel is bringing more industry, more jobs, more wealth to the West!

It's good business to do business with



Kaiser Steel

built to serve the West

PROMPT, DEPENDABLE DELIVERY AT COMPETITIVE PRICES • plates • continuous weld pipe • electric weld pipe • hot rolled strip • hot rolled sheet • alloy bars • carbon bars • structural shapes • cold rolled strip • cold rolled sheet • special bar sections • semi-finished steels • pig iron • coke oven by-products
For details and specifications, write: **KAISER STEEL CORPORATION, LOS ANGELES, OAKLAND, SEATTLE, PORTLAND, HOUSTON, TULSA, NEW YORK**

NYLON gives this New Abrasive disc-wheel *that all-important Extra*

SAFE

TOUGH

DURABLE

NON-RIGID

ECONOMICAL



SAF-T-CUT

For rugged weld grinding, Saf-T-Cut disc-wheels have no superior. (Will fit all standard right-angle head grinders and sanders... air or electric driven).



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STATE®**

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● This unique Bay State product, reinforced with strong nylon cord, is being acclaimed the "hottest" development in the abrasive field. There are definite reasons for such valued recognition when it comes to rough, heavy-duty portable jobs that must be done FAST. Ask for a free demonstration. You be the judge.

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NEXT TIME AN INSURANCE PROBLEM COMES UP IN YOUR FIRM...



BUZZ MISS BLUE
and ask her to....

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Insurance Agent
or Broker...**

Today's group insurance problems require **professional** attention. Your insurance agent or broker is qualified to give you **expert advice** on group insurance matters pertaining to your business. Make **full use** of his services. Make him a **key man** in your organization!

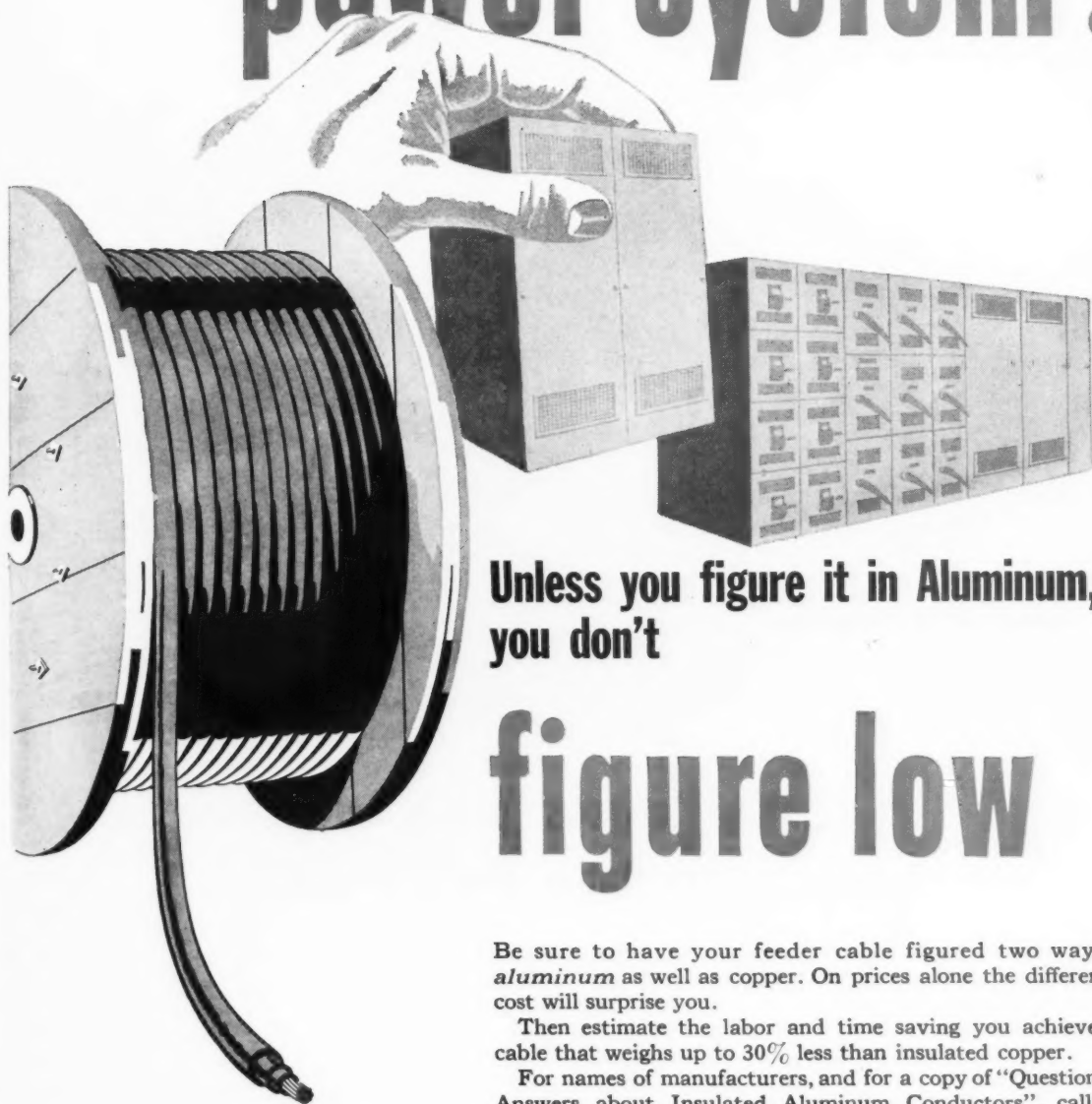
Group insurance builds morale, helps establish financial security and makes for greater efficiency among your employees. Your insurance agent or broker can give you information on the modern group insurance plans underwritten by the sponsor of this message —

CALIFORNIA-WESTERN STATES LIFE INSURANCE COMPANY

Home Office, Sacramento



expanding your
power system?



Unless you figure it in Aluminum,
you don't

figure low

Be sure to have your feeder cable figured two ways—in *aluminum* as well as copper. On prices alone the difference in cost will surprise you.

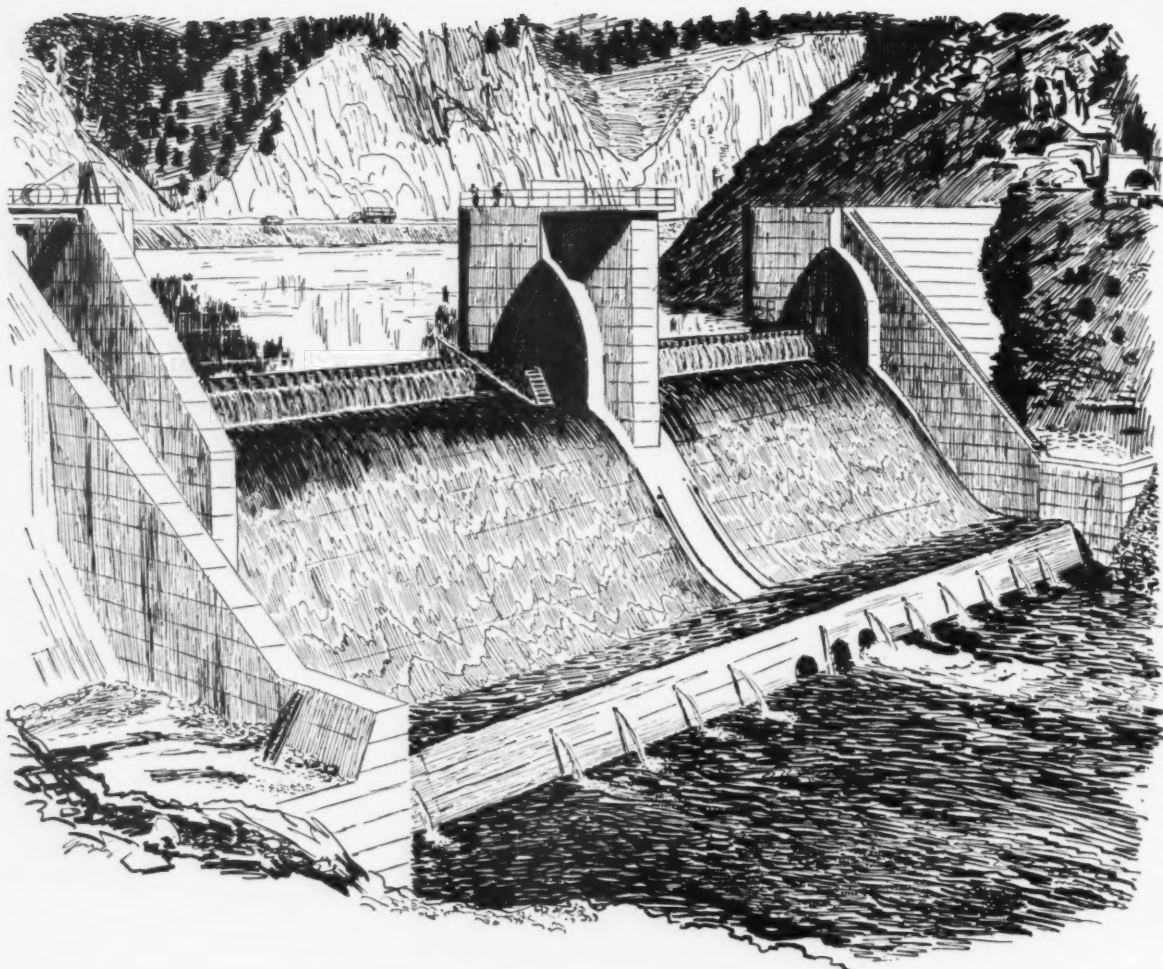
Then estimate the labor and time saving you achieve with cable that weighs up to 30% less than insulated copper.

For names of manufacturers, and for a copy of "Questions and Answers about Insulated Aluminum Conductors", call your nearby Alcoa sales office. Or write ALUMINUM COMPANY OF AMERICA, 1781G Gulf Building, Pittsburgh 19, Pennsylvania.

Insulated Aluminum Conductors



of ALCOA **EC** ALUMINUM are made by leading manufacturers



Plentiful, low-cost power helps build more profitable Western markets

Like other Northern California businesses, P. G. and E. is proud to work in the heart of the fastest growing market in the world—the Industrial West where new companies spring up twice as fast as in the rest of the country.

Since 1944, the number of California firms has increased about 60%. Last year Northern California manufacturers spent over \$100,000,000 for new plants and expansion. Many other privately owned enterprises put their money to work in new stores and equipment—retailers, wholesalers, service companies, public utilities. All this growth helps expand the

Your gas and electric rates are



market for your products and contributes to the wealth of the entire area.

Credit for new business goes to the many extra incentives our area offers out-of-state businessmen—nearness to an expanding, wealthy market . . . skilled labor, fine climate, deep-water ports, splendid transportation . . . abundant, low-cost power.

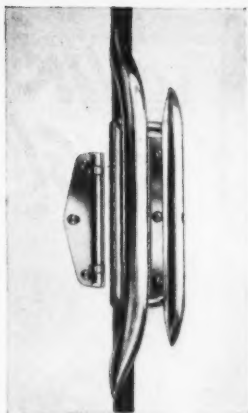
If electricity is important in your business, you'll be interested to know that P. G. and E.'s postwar power-building program is now nearing completion, and will double the horsepower available to all who need it.

among the lowest in the nation

P·G·and·E·

PACIFIC GAS AND ELECTRIC COMPANY

7X-50



SHORT, SHORT STORY:

- 1 Latch assembly on deep freeze cabinet was made of steel.
- 2 Parts rusted—plating peeled—owners complained.
- 3 "Covert" switched to brass—saved customer 30¢ a set.
- 4 Better product—no complaints—everybody happy.

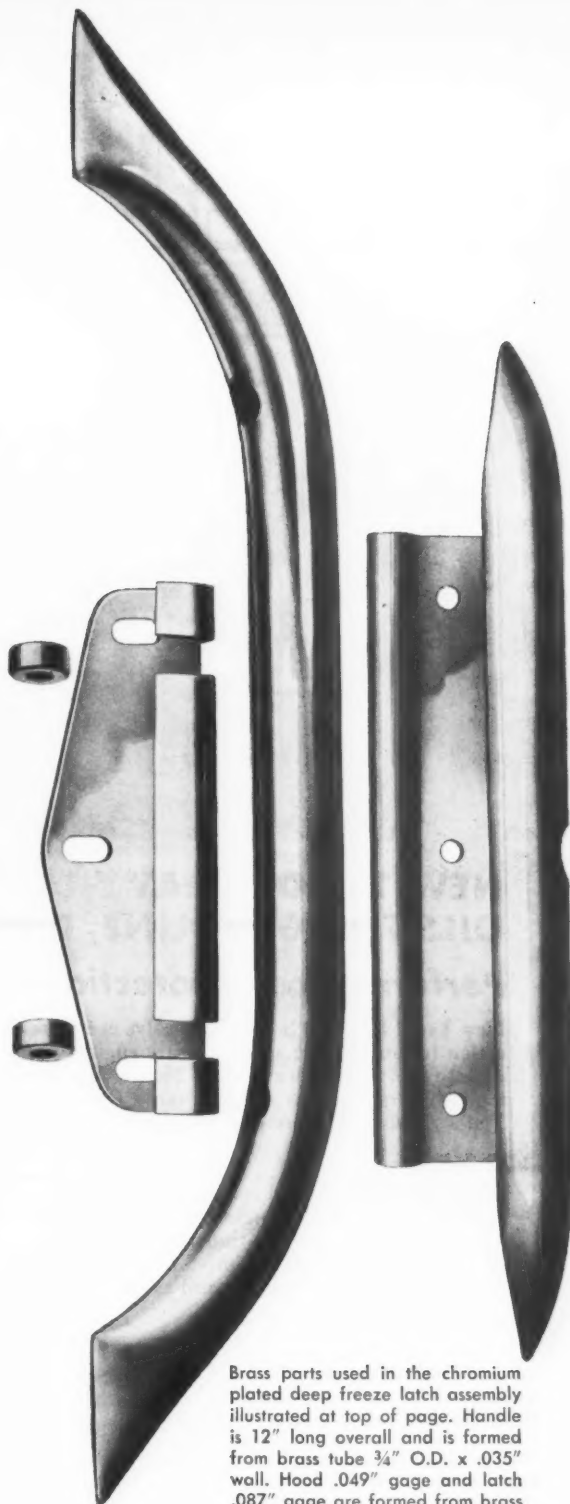
IT'S AS SIMPLE AS THAT. Cost of the brass (weighing less than a pound in the finished parts) was higher. Fabricating cost and procedure were exactly the same. However, the cost of buffing the 70-odd square inches of exposed area, before plating, was cut in half and this, plus the elimination of rejected parts, effected a net saving of 30¢ per set over the extra cost of the metal.

This happened to the Covert Manufacturing Co., Troy, New York. It could happen to you. We'll be glad to talk it over. . . . Address The American Brass Company, Waterbury 20, Connecticut; in Canada, New Toronto, Ont.

ANACONDA

the name to remember in **COPPER, BRASS & BRONZE**

R.S. Chromium plating on brass is brighter . . . less costly . . . longer-lasting



Brass parts used in the chromium plated deep freeze latch assembly illustrated at top of page. Handle is 12" long overall and is formed from brass tube $\frac{3}{4}$ " O.D. x .035" wall. Hood .049" gage and latch .087" gage are formed from brass strip. Rollers are turned from $\frac{1}{2}$ " diameter brass rod.

5097

SAFEGUARD *YOUR ENGINE*



CLEANS
as it **PROTECTS**
as it **LUBRICATES**

NEW TYDOL HEAVY DUTY COMPOUNDED MOTOR OILS FOR GASOLINE, DIESEL AND BUTANE ENGINES

Performance - Protection - Economy -

New Tydol HD, HD S-1, HD S-2 solve every problem of modern lubrication for automotive and stationary engines using gasoline, butane or diesel fuels. Tydol Heavy Duty Motor Oils are made of high quality, high VI paraffinic base oil compounded with new types of "additives." Tydol *cleans as it protects as it lubricates.*

TYDOL HD

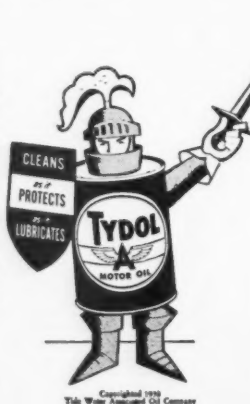
Especially recommended for high speed diesel, gasoline, butane fueled engines in automobiles, buses, trucks, tractors, stationary units under normal Heavy Duty conditions. SAE grades 10, 20, 30, 40, 50. Sold in drums and cans.

TYDOL HD S-1

Has higher detergency level than Tydol HD. For operation under cold start and stop conditions and under unusually severe continued overloaded conditions in all types of engines. SAE grades 20, 30, 40. Sold in drums.

TYDOL HD S-2

Has highest detergency level of the Tydol Heavy Duty series. For high performance and super-charged diesel engines using all kinds of diesel fuels under the most extreme conditions. Available in SAE grade 30. Sold in drums.



Check these Tydol safeguards

- ✓ Easier starting—heat resistant—stable in service.
- ✓ Contains anti-foam agent and assures positive lubrication. Low oil consumption.
- ✓ Freedom from ring sticking—less piston ring and cylinder wear.
- ✓ Prevents sludge and varnish deposits and clogging of oil ducts and passages.
- ✓ Insures free acting valve stems.
- ✓ Provides cleaner filter elements.
- ✓ Non-corrosive to alloy bearings and other engine parts.
- ✓ *Cleans as it protects as it lubricates.*

Call your Associated Representative for expert help on any lubrication problem.



**TIDE WATER
ASSOCIATED
OIL COMPANY**

Steel Problems?



Call Jorgensen First

THE WRONG STEEL for the job is bound to fail — and at the wrong time. That's why it pays to use the *right* steel for the job. But when you do find yourself in a situation where you have to drop everything because of a steel problem, remember that Jorgensen renders an

emergency steel service. And remember, too, that Jorgensen *can* supply the right steel for the job, because Jorgensen maintains *complete* warehouse stocks of carbon, alloy, stainless, tool and specialty steels. When *your* steel problem arises... **CALL JORGENSEN FIRST!**



EARLE M. JORGENSEN CO. STEEL

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Higate 4-2030

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HOUSTON
5311 Clinton Dr.
CHarter 1761

LOS ANGELES
10650 So. Alameda
LUcas 0281

YOU CAN BE **SURE**.. IF IT'S
Westinghouse

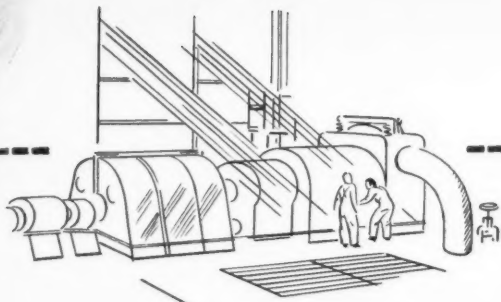


"Hoist the string and spin out a joint. Shell Oil's new rig, electrified by Westinghouse, the driller runs the operation from his "pilot seat". Advanced control makes his job easier—and the drilling more efficient.

WESTERN OIL—MORE PRODUCTION, MORE KW's

Important factor in the expanding Western economy: the oil industry. In ten years, refinery capacity has climbed some 40%, now tops 1.3-billion barrels per day. And these refineries buy almost one billion kilowatt-hours per year!

Oil fields use still more because electrification makes big savings. Take Shell Oil's new electric drilling rig, engineered by Westinghouse. Drilling a well is a complex operation, and the electrical system in this rig functions with amazing flexibility to spin the drill string, pump cooling and cleansing mud to the drill bit, hoist the string to change the bit. Every maneuver in a complex chain of operations is carefully controlled and co-ordinated. Net result: higher efficiency, man-hour savings, better drilling control. And the Westinghouse know-how that designed this ultramodern installation can help solve *your* electrical problems.



Why did Western power output **TRIPLE** in ten years?

When the figures were in for 1948, the statisticians announced: generators in the West had whirled out more than 54-billion kilowatthours. *That's three times the '39 output—a growth rate 50% over the U. S. average!*

Why the zooming output in the West? The chief reason: industrial growth. Industry uses two-thirds of Western power. And in the last decade 10,000 new plants have been built in the West and most of the original 20,000 have expanded. That's what's taking the extra kilowatts!

Many people have played a part in the big Western surge, and we're pleased to be among them.

Much of the apparatus that generates this new power was engineered by Westinghouse. And Westinghouse developments that USE power to best advantage help boost the over-all consumption. Shell Oil's new drilling rig, described on the opposite page, is a good example. Moreover, the eight Westinghouse plants producing this equipment *in* the West, *for* the West, are themselves a significant part of Western industrial growth.

As a factor in Western development, Westinghouse has a basic stake in its future. And that makes your Westinghouse office a good place to go when you want help in using power.

J-94832

**A MAJOR FORCE
IN WESTERN GROWTH**



PLANTS AT BERKELEY; DENVER, EMERYVILLE, LOS ANGELES, PORTLAND, SALT LAKE CITY, SEATTLE, SUNNYVALE
July, 1950—WESTERN INDUSTRY

"TIME IS MONEY"

says Norman Zeesman, President,
Zeesman Plywood Corp., Los Angeles

*...and White's 3000
saves on both!*

From Coast to Coast...these reports come in! White's sensational 3000 model truck is the time-saving, cost-saving answer to truck operating problems! Saves man-hours...Saves time in loading and unloading...Cuts maintenance costs and time...Gives more payload...Improved roadability at highway speeds...Better traffic Maneuverability...Greater safety!



It is to your profit—in more ways than one—to investigate White's sensational 3000 model today! Let your White representative give you the facts—prove that here's the truck that can save you money!

THE WHITE MOTOR COMPANY

CLEVELAND 1, OHIO, U. S. A.
Pacific Coast Branches and Dealers in all important cities.



FOR MORE THAN 50 YEARS THE GREATEST NAME IN TRUCKS



ZEESMAN PLYWOOD CORP.

2224 SO. 106TH ST. APT. 101, LOS ANGELES 16, CALIFORNIA • TELEPHONE LEdger 8173

The White Motor Company
Cleveland, Ohio

Gentlemen:

Our White 3000, after three months on the job, is more than meeting our highest expectations. We are especially pleased with the extreme maneuverability which has sharply cut loading and delivery times, thus enabling us to serve additional customers. We now expect to surpass last year's total of twenty million sq. ft. of Douglas fir plywood shipped from warehouse stock.

Because this new type truck has proved that it can save considerable time, and because in business "time is money", we consider it a profitable investment to replace all of our trucks with White 3000's.

Very truly yours

ZEESMAN PLYWOOD CORP.

Norman Zeesman
Norman Zeesman
President

YES, any way you look at it, here is the truck that is *more than modern*. It is *miles ahead* in revolutionary, functional design that pays off in dollars and cents!

WHITE 3000's PROVEN COST-SAVING ADVANTAGES

1. Saves driver time and energy
...gets more work done.
2. Complete front end accessibility
cuts maintenance cost.
Makes service easier.
3. New safety features.
4. New weight distribution permits
longer bodies...more payload.
5. Saves space on the street...in the
garage...better maneuverability.

TO SERVE THE NEEDS
OF WESTERN INDUSTRY...



... the West Coast's most modern *Fastener Plant*

Millions of famous "National" quality fasteners are daily being made in "National's" new Los Angeles plant.

"National's" modern West Coast facilities now enable us to supply your needs for standard or special fasteners, better than ever before.

We invite you to visit our new offices and factory . . . and to call in our representatives on any fastener problem.

In addition to a complete line of standard fasteners, "National" can supply your needs for almost any type of "special" . . . including Phillips Recessed Screws and Bolts; Twin-Fast Wood Screws; Lok-Thred studs, bolts and screws; Lock Nuts; special fasteners designed to your own specifications.



National Products include:
Hodell Chains • Chester Hoists

NATIONAL SCREW & MFG. CO. OF CAL.

3423 So. Garfield Ave., Los Angeles 22, Cal.
Div. of: The National Screw & Mfg. Co., Cleveland 4, Ohio



U. S. FLEX Chooses BUTLER Buildings



Butler Building used as warehouse and office by Seattle branch of U. S. Flexible Metallic Tubing Co. Note specially adapted front and sidewalls.

... for These Outstanding Features

FROM LOS ANGELES, F. A. McDONALD,
General Manager, U. S. Flexible Metallic Tubing Co.,
Writes . . .

"A number of oil company engineers have complimented us on the appearance of our Seattle Butler Building, and several mentioned interest in this type building for their own storage and operation facilities. All agreed that the building was entirely practical for our type industry, which is a combination of warehousing, sales and service.

"A report received from our Seattle manager states that our building went through a storm of hurricane proportions which hit the Northwest, without a leak or visible signs of other damage.

"Our Seattle members are very happy to be in the new location and our other branches are anxious to have a duplicate set-up in the respective cities."

The U. S. Flex Co.'s Seattle building was occupied just one month after foundation work was begun!

- Speedy Erection
- Dependable Service
- Attractive Appearance
- Complete Adaptability



Interior view of U. S. Flex warehouse shows full usable space provided by Butler Buildings.

For a Butler Building to Fit Your Needs, See Your Butler Distributor, or



**BUTLER
MANUFACTURING
COMPANY**

RICHMOND, CALIF.
KANSAS CITY, MO.
GALESBURG, ILL.
MINNEAPOLIS, MINN.

Mail This Coupon TODAY!

Address Dept. W127
Richmond, Calif.

Send full information about Butler Buildings
for use as _____

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

IN OUR MAILBOX

Correct!

Editor, *Western Industry*:

We have just been looking over the June issue of *Western Industry* and found in it two articles that were very interesting.

In the back of the magazine I found the very nice writeup you gave us on personnel changes. For the first time in all the years I have been in this business, I have read an announcement of this kind about our Company that was all correct. Every name is spelled right, every change is right, and I don't mind telling you I am just a little bit amazed.

Thank you very much for your courtesy in making the announcement and for your accuracy in printing it. It will certainly be a pleasure to see that all future announcements are sent to you for your information to use or not, as you see fit.

Again, thank you very much.

Very truly yours,

R. W. WINSTON,
Sales Promotion Manager,
Moore Business Forms, Inc.,
Emeryville, California.

* * *

Generous

Editor, *Western Industry*:

You were most generous in your editorial "In Work Simplification Lie Many Roads to Profit." With the enthusiastic support that you are giving the University of California here and at Berkeley, we can make our efforts count more than otherwise would be the case.

RALPH M. BARNES
Professor of Engineering and
Production Management,
University of California,
Los Angeles, California.

* * *

Explains His Position

Editor, *Western Industry*:

A copy of the June issue of *Western Industry* was forwarded to me anonymously with a pencil reference to Page 29—"Steel," relative to my testimony before Congress.

The statements in the article have put me in a rather incongruous situation. In the first place, Judson Pacific-Murphy Corporation do not own a rolling mill—we are in the fabricating business—and any statements I made before the Celler Committee in Washington in no way had any bearing on either the Reinforcing Industry or on the Mill situation on the Pacific Coast.

It is true Judson Steel Corporation operate a rolling mill on the property adjoining ours, but our relationship with that company is merely on a customer basis, and we have found that Bethlehem Pacific Coast Steel Corporation prices are very similar to those of the Judson Steel Corporation; Consolidated-Western do not operate a rolling mill at all, so it is quite evident that someone has given you misinformation.

I would appreciate it if in some manner the impression your current article conveys can be corrected by your publication. I have a transcript of my remarks before the Committee and should you be interested in reading the testimony I shall be pleased to send you a copy.

J. PHILIP MURPHY, President,
Judson Pacific-Murphy Corporation,
Oakland, California.

EDITORIAL COMMENT

Industrialists vs. Industries

IN THE various discussions that take place over developing more industry in the West in order to find employment for an ever-increasing population, we do not find enough attention devoted to the problem of management training. There is no use encouraging the establishment of more plants unless we can at the same time find people who will know how to make them pay, and the difference between success and failure often lies in the amount of training the management has in the fundamentals of methods, production engineering, production control, labor efficiency, and the like.

Various educational institutions in the West are doing a good job of educating future supervisory talent, but they need more support, first in a more receptive attitude toward these students by industry, and second in encouraging the state legislatures to provide more financial wherewithal.

In the current survey of operating methods and management practices now appearing in *Western Industry*, the contrast between the plants using so-called "Western methods," i.e., independently developed in the West, and those employing "Eastern methods," i.e., the branch plants or subsidiaries of Eastern manufacturing organizations, is a striking one. If we were to publish simultaneously a list of the university courses in engineering and industrial management available back East and out here in the West, we might find part of the explanation. A comparison of what is available back East and out here on foundry practice is a good example. We had occasion to look it up not so long ago; where the subject was only one of many high spots hit in one semester in the West's largest educational institution, an Eastern counterpart had an entire semester's work on it. No one is to blame for the existence of such a situation in the West; it is merely something we haven't yet grown up to. But we shouldn't delay any longer.

This May Be the Solution

WE CAN'T exactly blame the Canadians for being a bit skittish about exporting natural gas from Alberta to Washington and Oregon, for fear that some day they may need it at home. But why shouldn't they sell it to us on an interruptible contract basis, similar to the industrial gas contracts in California and the aluminum contracts for electricity in Washington and Oregon?

Then the provincial governments should be able to satisfy all the complaints about "giving away natural resources to another country." The risk should not be too great, either for the builders of pipelines or the users of the gas. By the time Western Canada is developed to the point where it needs some of this exported gas, the whole fuel picture may easily be changed. The mind of man is operating so fast today that new sources of supply are bound to be ready by the time the need arises.

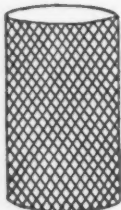
One Proof of Immortality

IF PEOPLE doubt whether there is such a thing as immortality, we respectfully refer them to a duplicated name on a mailing list.

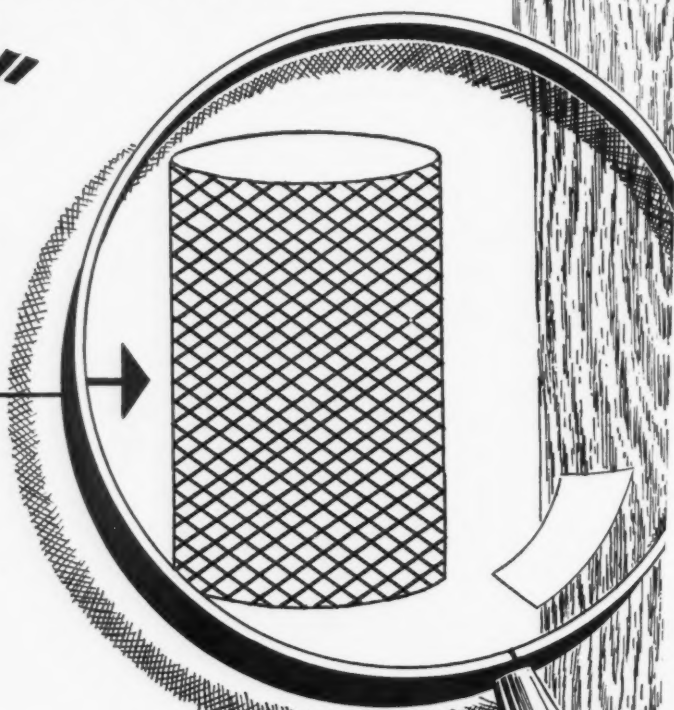
See an entirely new construction of rayon braided and molded hose made by PIONEER RUBBER MILLS

"54-40"

See the new angle of braiding rayon reinforcement—54 degrees, 40 minutes. Adds strength, reduces weight, increases flexibility.



Other angles of braid are too long or too short. Longer braid angle causes contraction in length and expansion in diameter when subject to pressure. Shorter braid angle causes a reverse effect.



"54-40" offers

maximum service at minimum cost

PIONEER RUBBER MILLS' new method of braiding rayon yarn reinforcement into a balanced 54-degree, 40-minute angle, plus its High-Pressure Method of vulcanizing, insures the user the greatest hose value on the market.

"Optimo" or Perfect Angle

That's what "54-40" means. The angle of lock that provides hose with the braided

reinforcement needed to give maximum strength, reduced weight, and increased flexibility. Add to this the fact that PIONEER hose is vulcanized in polished steel presses under pressure as much as 5 times greater than that possible with conventional methods and you can see why the new "54-40" line is worth investigating.

Get the facts now from

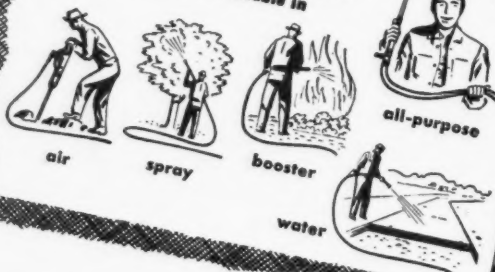
PIONEER RUBBER MILLS

BELTING • HOSE • PACKING • RUBBER COVERED ROLLS
345-53 SACRAMENTO ST. • SAN FRANCISCO 11
BRANCHES: LOS ANGELES • CHICAGO • ST. LOUIS
FACTORIES: PITTSBURG, CALIF.

Distributors:

SEATTLE-TACOMA	Washington Belting & Rubber Co.
PORTLAND-EUGENE	Munnell & Sherrill, Inc.
KLAMATH FALLS	Klamath Machinery Co.
SPOKANE-BOISE	Intermountain Equipment Co.
SALT LAKE CITY	National Equipment Co.
DENVER	Western Belting & Packing Co.

The new "54-40" construction in
PIONEER hose is available in



CALENDAR OF MEETINGS

July 24-28—Stanford Business Conference, on campus at Stanford University, Stanford (Palo Alto) California. Contact J. Hugh Jackson, Dean, Graduate School of Bus. Ad., Stanford.

July 31-Aug. 3—Pacific Gas Association annual convention at Olympic Hotel, Seattle, Wash. Charles M. Sturkey, general chairman, arrangements.

Aug. 16-18—Western Packaging and Materials Handling Exposition, Civic Auditorium, San Francisco. Contact E. H. Heimer, 769 Monadnock Bldg., San Francisco.

Aug. 19-20—Statewide Air Freight Clinic. Hotel Claremont, Berkeley. Contact Aviation Committee, Oakland Chamber of Commerce.

August 21-25—Annual National Technical Conference of the Illuminating Engineering Society at Hotel Huntington, Pasadena, Calif.

August 28-31—Metal Mining Convention and Exposition at Salt Lake City. Contact Roy A. Hardy, Getchell Mine, Inc., Reno, Nevada.

Sept. 4-9—University of California Management Conference, at Asilomar, Calif. Contact Ronald W. Haughton, Institute of Industrial Relations, University of California, Berkeley 4.

Sept. 13-15—Pacific Electronic Exhibit (sixth annual) at Long Beach Municipal Auditorium. IRE coast convention concurrently.

Sept. 18—First Pacific Northwest Research Conference, Portland, Ore. Contact Chester K. Sterrett, Portland Chamber of Commerce.

Sept. 18-19—Western States Council, annual meeting, Reno. Contact Gus P. Backman, president, care Salt Lake City Chamber of Commerce.

Sept. 28-31—American Mining Congress—Metal Mining—at Salt Lake City, Utah.

October 17-19—24th Pacific Coast Management Conference at Hotel Claremont, Berkeley, California. Sponsored by California Personnel Management Association.

October—National Beverage Exposition, at San Francisco (tentative).

October 23-25—Pacific Logging Congress, at Multnomah Hotel, Portland, Ore. Contact Carwin A. Woolley, AT, 7971, Terminal Sales Building, Portland.

December 4-5—Northwest Frozen Foods Association, at Multnomah Hotel, Portland. Contact E. M. Burns, BR, 7074, Northwest Frozen Foods Association, Title and Trust Bldg., Portland.

CORRECTION: In the article entitled "Kirk's Dies May Offset the West's Short-Run Handicap," appearing last month in *Western Industry*, Kirk's site was inadvertently described as a "lead-base alloy." That statement is in error, since Kirk's site is a zinc-base alloy.

GOOD LIGHT... A GILT-EDGED INVESTMENT



APPLETON LIGHTING EQUIPMENT



Good light pays big dividends in increased efficiency, greater profits—better employee relations.

Appleton Industrial Lighting Equipment is scientifically designed to provide *good light*—the right light, without uncomfortable glare, troublesome contrast or shadow. Expert engineering, unequalled manufacturing facilities and a half century of experience are combined in each Appleton Fixture to provide maximum efficiency at minimum installation, service and operating cost.

Appleton Lighting Fixtures are made to suit every industrial requirement—including hazardous locations—whether indoors or out. For the finest illuminating equipment or expert assistance on any lighting problem, contact Appleton—Standard For Better Lighting.

Sold Through Electrical Wholesalers

APPLETON ELECTRIC COMPANY
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APPLETON
CONDUIT FITTINGS • LIGHTING EQUIPMENT • OUTLET AND
SWITCH BOXES • EXPLOSION-PROOF FITTINGS • REELITES

A TOUGH JOB

?



let
NATIONAL
do it...

The biggest and toughest jobs go to National's Torrance Plant. The facilities we have make the most complicated heavy manufacturing job run smoothly and easily.

The Arm for the Hufford stretch press above, is a typical example. We did the welding, machining, heat treating, assembling and testing—all in one integrated

plant right here in the West. Each step was done under expert guidance by men who have years of experience in each operation.

Call us the next time you need help on any heavy manufacturing problem. Meanwhile send for your free booklet, "From Melting Furnace to Finished Product".



**THE NATIONAL
SUPPLY COMPANY**

THE NATIONAL SUPPLY COMPANY

Industrial Products Division

Torrance, California • Los Angeles Area

IDEAL PRESSED STEEL FORGINGS,

BILLETS AND LARGE BARS

STEEL CASTINGS AND SPECIAL MACHINERY

MELTING • FORGING • CASTING • MACHINING

HEAT TREATING • ASSEMBLING • WELDING • TESTING

THE WESTERN OUTLOOK . . . News . Statistics

1

Leadership position of some of the West's industrial areas reveals strength of base; East turns to the West for steel; Fruit canning industry weathers threatened storm; Record sugar output looked for.

THE "Western Outlook" department is supposed to be devoted toward looking ahead. But at the same time it is possible to get some idea of where you are headed by measuring up to see how far you have come.

Accordingly the following summary of how important the Los Angeles industrial area is in the national picture will give an idea of the sturdiness of the base on which some of the West's industries rest.

The area leads, according to the 1947 Census of Manufactures, in the manufacture of the following: aircraft and aircraft parts, motion pictures, pumps and compressors, refrigeration equipment and machinery, and canned sea food.

It stands in second place in these industries: women's and misses outerwear, pressed and blown glass, concrete and plaster products, automobile assembly, automobile tire and tube production, storage batteries, jewelry and silverware, heating and plumbing equipment, millwork (wood), oil field machinery and tools.

Third place is held in the following: women's and misses underwear, miscellaneous fabricated textiles, miscellaneous wood products, household furniture, newspaper publishing, petroleum refining, pottery and related products, non-ferrous foundries, tractors and farm machinery, construction and mining machinery, conveyor equipment.

Some other industrial areas in the West have their claims to glory also, such as the Northern California area



in fruit canning and dried fruit packing, the Pacific Northwest in lumber and plywood, and Utah, Montana and Arizona in copper mining and smelting.

Business Activity Indices

	February	March	April
¹ Arizona	330.9	324.9	337.7p
² California	219.5	223.0	226.5p
³ So. California	275.4	277.9	285.9p
⁴ Pacific Northwest	219.0	220.5p	.....
⁵ Puget Sound	214.7	214.8p	.....
⁶ Inland Empire	200.0	200.0p	.....
⁷ Lower Columbia	235.1	237.7p	.....

- Valley National Bank (Phoenix) index, based on a weighted composite of retail sales, agricultural income, and employment in mining, manufacturing and construction, seasonally adjusted. 1940=100.
 - Wells Fargo Bank & Union Trust Co. index based on the following components: Industrial production, freight carloadings, bank debits, department store sales (weighted 4, 3, 2, 1, respectively, and adjusted seasonally).
 - Security-First National Bank of Los Angeles index, based on the following components and weights, and adjusted seasonally: department store sales, 15; building permits, 5; Los Angeles bank debits, 20; residential city bank debits, 5; agricultural city bank debits, 5; industrial employment, 20; industrial power sales, 13; railroad freight volume, 6; telephones in use, 7; real estate activity, 4.
 - Index compiled by Bureau of Business Research, University of Washington. Basis of compilation not indicated.
- p. Preliminary estimate.

WHOLESALESALES

In thousands of dollars. Percentage changes are from corresponding month of preceding year. From Bureau of the Census.

1950	MOUNTAIN			PACIFIC			Groc. and foods exc. farm. prod.			General Hardware		
	Automotive Supplies	Change	Electrical Goods	Change	Furn. and house furn.	Change	Change	Change	Change	Change	Change	Change
January	805	+ 9	2,691	0	.....	.....	.....	.....	966	-18	.....	.....
February	795	- 7	3,131	+ 6	804	+30	.....	.....	1,360	+ 1	.....	.....
March	643	-23	3,671	- 2	1,202	+49	.....	.....	2,138	+ 2	.....	.....
January	1,902	- 9	10,943	- 2	2,411	+19	.....	.....	5,345	-15	.....	.....
February	2,892	+ 5	12,276	+ 7	2,508	+15	.....	.....	5,775	- 8	.....	.....
March	2,320	- 2	14,254	+ 7	3,402	+27	.....	.....	7,371	- 2	.....	.....

INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS OF COMMODITIES AND BY MONTHS

Bureau of Labor Statistics, Washington 25, D. C. (1926 = 100)

1950	Farm Products	Foods	Hides and Leather Products	Textile Products	Fuel and Lighting	Metals and Metal Products	Building Materials	Chemicals and Allied Products	House Furnishing Goods	Miscellaneous	ALL COMMODITIES
January	135.3	154.7	179.3	138.5	131.3	168.4	191.7	115.7	144.8	110.0	151.6
February	139.1	156.9	179.0	138.2	131.2	168.6	192.7	115.3	145.0	110.0	152.7
March	139.4	155.5	179.6	137.3	131.4	168.4	193.9	116.3	145.3	110.7	152.6

As for the immediate picture, business index figures by Wells Fargo National Bank of San Francisco and Security-First National of Los Angeles show a spring upturn above 1949, in fact above 1948 also. Building construction continues its upswing. Equitable Savings & Loan Association, Portland, forecasts that 1950 will exceed by a good margin the total of 1948, which is considered one of the best years in the construction industry. Total construction in 47 Pacific Northwest cities advanced 41% (on a dollar basis) over the first quarter of 1949, while dwelling construction was up 81%. *Western Building* reports April as 25% better in the West than last year.

(Continued on page 25)

TRUCK TRAFFIC

(Number of commercial trucks entering state through border checking stations)

	CALIFORNIA		ARIZONA	
	1949	1950	1949	1950
April	14,755	16,958	22,129	25,768

CONSUMERS' PRICE INDEX

From Bureau of Labor Statistics
100 = 5 yr. Avg. 1935-39

1949	Los Angeles	San Francisco	Portland	Seattle	Denver
Nov. 15.....	166.6	.....	.....	171.6	.....
Dec. 15.....	165.4	171.5	.....	.....	.....
1950					
Jan. 15.....	166.9	.....	173.8	.....	.....
Feb. 15.....	166.1	.....	.....	171.6	.....
Mar. 15.....	165.9	172.3	.....	.....	.....
Apr. 15.....	166.9	.....	174.8	.....	165.7

BANK DEPOSITS

(In millions of dollars—adjusted)

Average of daily figures. All member banks in the 12th Fed. Res. District. Demand deposits, excluding U. S. Government deposits, cash items in process of collection, and interbank deposits.

	April 1949	April 1950
Net Demand Deposits.....	8,421	8,697
Time Deposits	6,110	6,283

BANK LOANS

Industrial, commercial and agricultural
(In millions of dollars)

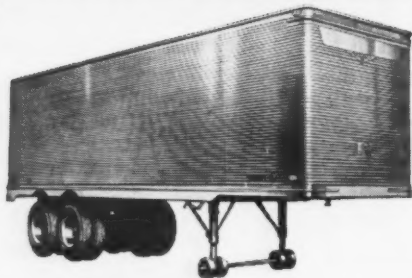
From weekly reporting member banks of Federal Reserve System in 7 Western cities: L.A., S.F., Portland, Seattle, Tacoma, Spokane and Salt Lake. (Average of Wednesday reports)

April, 1949	2,099
April, 1950	1,934

Industrial Supplies	Change	Lumber and bldg. mat.	Change	Mch. equip. and supplies excl. elec.	Change
1,567	-13	1,893	+15	331	- 7
1,797	- 9	1,733	+27	397	0
2,397	+ 9	2,371	+19	682	+ 8

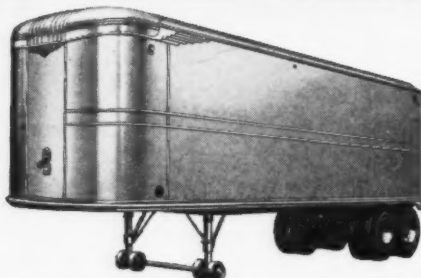
ONLY FRUEHAUF OFFERS YOU ALL THREE!

1 STAINLESS STEEL



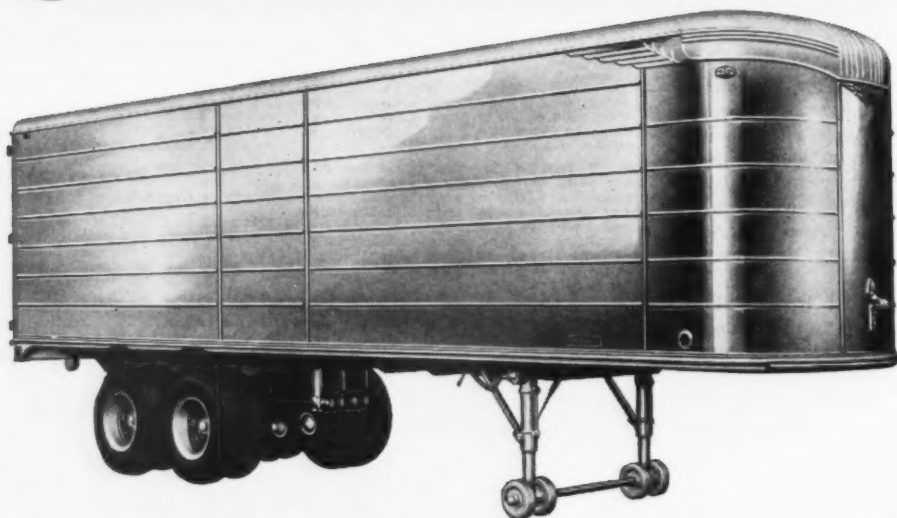
Lighter-yet-stronger construction permits "bonus" loads up to 4000 lbs. Rustproof, corrosion-resistant Stainless Steel never needs painting. All popular lengths . . . Gravity-Tandem or single-axle "Multi-Rate" Suspensions.

2 AEROVAN (Hi-Tensile Steel)



Rugged integral-frame construction of hi-tensile steel. DOUBLESEAL door is one of many new exclusive AeroVan features. All popular lengths . . . with Gravity-Tandem or single-axle "Multi-Rate" Suspensions.

3 AND NOW ALUMINUM!



Strongest Aluminum Trailer built today! Exclusive Fruehauf features include Supports, Wheels, Roof, Doors and sub-frame cross-members of Aluminum; Magnesium Floor. All popular lengths . . . Gravity-Tandem or single-axle "Multi-Rate" Suspensions.

World's Largest Builders of Truck-Trailers

FRUEHAUF TRAILER COMPANY

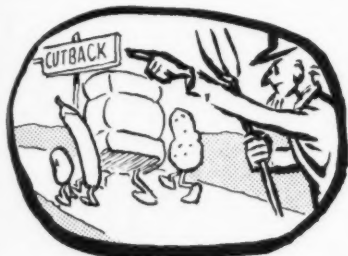
Western Manufacturing Plant, Los Angeles

Sales and Service: Los Angeles • San Francisco • Portland
Seattle • San Diego • Fresno • Sacramento • Spokane
Billings • Salt Lake City • Boise • Phoenix • Albuquerque
El Paso • Denver

ONLY FRUEHAUF HAS A COMPLETE LINE OF TRUCK-TRAILERS
1 STAINLESS STEEL
2 AEROVAN (Hi-Tensile Steel)
3 ALUMINUM

Continued from page 23

Employment reports indicate a generally strong tone from all parts of the West, but an unfavorable angle is that cut-backs in agricultural acreage in the 12th Federal Reserve District in cotton, dry beans, rice and potatoes



total 2¼ million acres, which the Federal Reserve Bank says is a staggering amount of land to find new use for. By states the requested reductions are, in thousands of acres:

Arizona	148
California	547
Idaho	455
Nevada	6
Oregon	274
Utah	133
Washington	677

TOTAL 2,240

Price support levels, as per cent of parity, are likely to be somewhat lower than last year. The Bank reports them as follows:

	1949	1950
Butterfat	90	79
Dry beans	80	75
Dry peas	60	0
Eggs	90	75
Flaxseed	90	60
Manufacturing milk	90	79
Turkeys	90	0

The modernized parity formula applicable to 1950 increases the parity prices of butterfat, dry beans, flaxseed, and manufacturing milk and lowers the parity price for eggs.

Electric Energy

In the Pacific Northwest, increase in peak loads during May was 12% above the same month a year ago. Increase in energy was 11% above the month of May a year ago. The outlook in that region for the next few months is quite satisfactory; power supply is greater than the loads. No trouble is an-

ELECTRIC ENERGY

(Production for Public Use—in thousands of kilowatt hours.)

(Source: Federal Power Commission)

	March 1949	March 1950
Mountain	1,554,388	1,628,070
Pacific Northwest	1,886,851	2,053,870
California	1,759,176	1,976,268
TOTAL PACIFIC	3,646,027	4,030,138

ticipated unless the region has high floods, but the flood danger appears diminishing.

In California, Arizona and Nevada, peaks for that area in April were 5.8% above the same month of last year. Energy was 5.2% above last year's level. Water conditions are not quite so good as usual, being slightly below average. It is expected that the summer peak loads will be met without any difficulty. There is plenty of power. The supply exceeds present demands by a reasonable amount. In Arizona the drought is still continuing as it has for several years, but it appears at present that no load curtailment will be necessary.

Oil

Total U. S. petroleum demand for domestic and export purposes this year will run about 349,000 barrels a day higher than in 1949, the Independent Petroleum Association estimates. This would be an increase of 5.7% above last year's production rate.

IPA predicts a reduction in total stocks of crude and refined products of 17,000,000 barrels by next January. During the first quarter of this year, inventories were reduced by 51,000,000 barrels, much of this decline representing seasonal withdrawals of fuel oils. Stocks are expected to rebound seasonally between now and year's end.

This situation probably is behind recent firming up of gasoline prices east of the Rockies, although of course the period of peak motor fuel demand is just ahead helps strengthen the price structure.

Average octane rating of regular gasoline is now 83.2 as against 81.5 last year.

A new pump on the Rangeley, Colorado, crude oil pipeline will boost flow of oil into the Salt Lake area by 5,000 barrels a day.

Arizona is scene of a new gas strike near Holbrook which geologists rate as probably the biggest helium well on the North American continent. The gas occurred at the 1,000-foot level of an oil well and is said to be running 20,000,000 cubic feet daily.

PETROLEUM

(California, Oregon, Washington, Arizona, Nevada)

(From Bureau of Mines)
(In Thousands of Barrels Daily)

	March 1949	March 1950
Crude Production	949	857
Gasoline	15	14
Gas, Oil and Diesel	152	97
Heavy Fuel Oil	386	312
ALL PRODUCTS	1,024	930

Coal

Intermountain bituminous coal production was at a seasonal low during May. Commercial mines operated two and three days per week. Mines producing coal for the steel industry operated on the normal five-day week. The Fall pickup will start being felt in late June.

BITUMINOUS COAL AND LIGNITE

(In thousands of tons—From Bureau of Mines)

	March 1949	March 1950
Colo.-New Mexico	585	519
Wyoming	542	520
Utah	725	636
Montana	255	280
Wash.-Alaska	988	110

INDEX OF DEPARTMENT STORE SALES

(Index numbers, 1935-39 daily average = 100 with seasonal adjustment.)

Compiled by Federal Reserve Bank

	March 1949	March 1950	April 1949	April 1950
Total 12th Fed.				
Res. Dist.	321	321	343	333
Southern California....	349	342	368	355
Northern California....	285	298	317	311
Portland	296	311	331	312
Western Washington..	339	345	353	357
Eastern Washington and northern Idaho	366	341	367	356
Utah and southern Idaho	326	314	327	303
Phoenix	448	423	448	456

Nonferrous Metals

Nonferrous metal mining operations, particularly those whose primary production is copper, continued at a high level during May. With demand for copper running ahead of supply, major producing companies are operating some of their facilities seven days a week. Near-capacity production is expected to continue at least through the third quarter of this year.

Aluminum

Alcoa led the way in May for the first price increase in aluminum since the middle of 1948, ½¢ per lb., making primary pig 16½¢ and ingots 17½¢. This reflects the strong demand, because aluminum does not fluctuate in price like copper. One factor is the big home building programs where most of the dwellings have built-in appliances. A long-expected reduction in roofing prices has come which diminishes an undue spread between the coiled sheets sold by the primary producers and the corrugated product turned out by the fabricators.

Demand for aluminum windows has risen tremendously since the first of the year, spurred by the sharp upsurge in building.

Another string item on the West Coast is the forged aluminum disk wheel for trucks, now gaining ground because of its light weight and consequent reduction of non-paying load. Eastern manufacturers, however, are reported to be clinging to the cast wheel.

Steel

Dramatic steel news is the movement of Western steel eastward, with Kaiser Steel Corporation's latest contract with Trunkline Gas Supply Company for a 1,300-mile Texas-Illinois natural gas pipeline bringing Kaiser's oil and gas pipe contracts up to a total of more than \$100 million. This contract is for 255,000 tons of steel pipe to be fabricated by Basalt Rock Co. at Napa, Calif. Nearing completion is delivery of 470,000 tons of plate for Transcontinental Gas Pipe Line Company for an 1,840-mile gas line from Texas to New York City. The two contracts total 771,745 tons of steel.

This means that the Fontana mill is sold out for another year and that all its ingot capacity will be devoted to this purpose, except for keeping present customers supplied with merchant bars and structurals. Output of the mill at present is equivalent to 1,200,000 tons of ingots yearly.

The continued upsurge in residential construction
Continued on page 27

**LOSS OF MY WEIGHT
IN ENGINE WEAR
—ABOUT TWO OUNCES—
WILL RUIN YOUR ENGINE**

Your engine weighs hundreds of pounds, but the loss of 2 ounces by wear — little more than the weight of the canary — will ruin it!

**It's Acid Action - not friction -
that causes most engine wear**

**Shell Research discovery counteracts
Acid Action, prolongs engine life**

• Few realize it's corrosive Acid Action—not friction—that causes up to 90% of engine wear. In typical "on and off" operation, your engine never warms up to efficient operating temperature.

Combustion is incomplete. Partially burned fuel gases and moisture attack the metal surfaces *chemically*. Shell scientists worked 9 years developing a new, unique "X" safety factor to counteract this biting acid.

Now 2½ million miles of road testing, plus millions of miles of use by motorists, have proved that Shell X-100 Motor Oil prolongs engine life. This oil, long famous for its protection at sustained high speed, now brings this additional safeguard for every mile you drive.

For passenger cars
and light trucks



It's Incomparable!

Continued from page 25

struction with its attendant demand for plumbing fixtures and other fixtures and appliances, is another factor in keeping

WESTERN STEEL SERVES THE EAST

Enough pipe to reach from Los Angeles to New York to Miami.

Enough pipe to carry gas to heat 2,075,000 homes.

Enough pipe to fill a 275-mile-long train or 31,600 cars.

Kaiser's pipe orders.

Western steel mills busy. Geneva is operating at a 1,300,000 tons annual capacity, or 103% of rated capacity. However, there are slow spots and the Western market would be much bigger if ship repair and construction could be attracted to the Coast. A recent example of a big repair and conversion job which went to Bethlehem's Baltimore yard because the lowest bid from any Coast yard was \$900,000 too high, shows what a gap has yet to be spanned. Japanese nails and Belgian steel products are being sold on the Pacific Coast, enough to be noticeable, although the quantity apparently is not great.

Note: See J. Philip Murphy letter, page 19.

CEMENT

(In thousands of bbls.)

From U. S. Bureau of Mines

	March 1949	March 1950	April 1949	April 1950
California	1,844	2,368	2,050	2,180
Oregon-Washington	583	452	647	538
Colo.-Wyo.-Mont., Utah-Idaho	458	468	581	639

Aircraft

Slight pickup in aircraft employment has been noted lately. Experts in certain highly technical specialties are at a premium.

Lockheed, for instance, had the unusual experience of having advertising copy rejected by a Hartford, Connecticut, newspaper because the "Help Wanted" insertion sought to attract specially trained engineers for jet plane design work. Eastern industry obviously is protecting itself against blandishments of west coast recruiters.

Northrop has nearly doubled its military backlog by addition of \$52,000,000 worth of Scorpion F-89 twin-jet interceptors. AiResearch has taken on the job of supplying the complete pressurization and air conditioning equipment for the 65 Martin twin-engine commercial transports recently or-

dered by Eastern and Trans World Airlines.

Douglas is now actively promoting the services it is offering to metal fabricators through its Western Pressed Metals division, which uses Kirksite dies to produce steel stampings at low cost. (See *Western Industry*, June issue.)

The undertaking is a bid for civilian business in lines other than aircraft, and will not interfere with the company's regular aircraft manufacturing.

Douglas is optimistic over prospects that the turbo-prop power plant will create strong demand for a long time for its DC-6, since the turbine-plus-propeller combination can be put into current models with only minor structural changes, whereas the pure jet turbine, despite its advantages, would mean a completely redesigned airplane.

North American has been awarded an Air Force contract for installation of air-to-air refueling equipment in the four jet RB-450. It is the first time a multi-jet has been refueled in flight.

U. S. aircraft men have complained that Britain is outdistancing American industry in jet plane development. Now comes word that RAF leaders are "harassed" by demands that British development of supersonic fighters be stepped up to match U. S. advances. A small tailless jet plane which crashed in tests revealed that the British are experimenting with swept-back wing supersonic craft like some of our own.

Meanwhile it is reported that an Air Force surface-to-surface guided missile has been flown under ground control for 45 minutes. If it reaches its predicted range of 400 miles it will outclass the German V-2 rocket with the great advantage of remote control.

Lumber

There is imminent danger of runaway market. Buyers are scrambling for what's available and bidding up, and some operators are inclined to ride the boom despite consequences, while others are trying to hold steady, don't want to see things go out of hand, see a buyers' strike develop. Inventories built up by early buying last Fall have been worn down to the floor, and great loss of production last Winter is being felt now. Housing activity keeps things running high. Labor has just won another increase, amounting to about 10½%, but this is no

deterrent under present market. Strangely enough, Weyerhaeuser Timber, by far largest lumber producer, which came out first with employee pension plan, months ago, is only organization tied up by strike. Withdrawing of their heavy volume of production has thrown increased pressure on other mills, put more pressure upward on prices. Best estimate is that production and prices will hold strong through 1950.

Continued on page 29

WEST COAST LUMBERMEN'S ASSOCIATION

	April 1950	1950 17 Weeks	1949 17 Weeks
Production	223,839	3,082,142	3,030,520
% 1945-1949 Yrs.	137.3%	111.2%	109.4%
Orders	253,882	3,799,571	3,180,623
Shipments	225,898	3,321,705	3,025,144

WESTERN PINE ASSOCIATION

(Comparative report, 106 identical mills, in thousands of board feet)

	Week Ending April 22	Three Year Weekly Ave. for April	Total to Date 1950	Total to Date 1949
Orders	76,242	65,387	1,159,157	924,207
Shipments	71,597	67,429	1,111,022	862,309
Production	63,918	60,929	835,085	734,207

CALIFORNIA REDWOOD ASSOCIATION

	March 1950 All Species	March 1949 All Species
Production	51,502	42,408
Shipments	48,292	30,531
Orders Received	52,588	29,833

	April 1950	April 1949
Production	51,206	44,350
Shipments	45,778	35,770
Orders Received	45,302	36,459

FREIGHT

Cars of revenue freight, railroad carriers in 11 Western States

Compiled from Assn. of Am. R. R. weekly reports

	1949	1950	Received from Eastern Connections 1949	Received from Eastern Connections 1950*
April	607,182	543,940	334,485	349,139

* 5-week period.

AIR FREIGHT

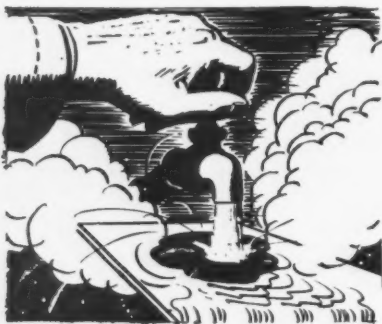
(In pounds. Figures from airports)

	Los Angeles		San Francisco		Oakland		Portland		Seattle	
	In	Out	In	Out	In	Out	In	Out	In	Out
1949										
November	1,300,850	1,391,597	967,135	1,075,337	102,351	150,148				
December	1,511,280	1,495,057			126,828	155,506			483,843	792,960
1950										
January	1,139,500	1,064,212	855,863	929,761	210,615	158,460			392,850	621,221
February	1,027,146	1,086,299	814,706	1,179,674	107,182	158,467				
March	1,235,068	1,330,344	1,012,229	1,245,260	137,671	253,652				
April	1,142,800	1,326,717	920,288	1,258,831	122,080	208,185			522,339	1,102,309

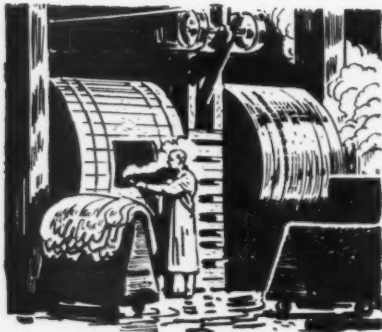
How to reduce your grease inventory and get better lubrication



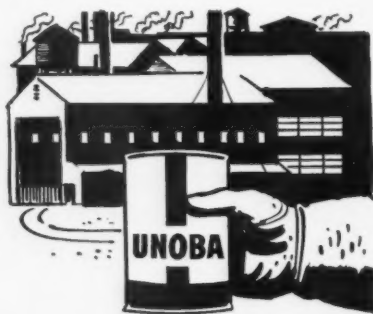
1. Plant operators in all types of western industry are proving that you can actually concentrate much of your grease inventory to multi-purpose UNOBA grease—and get *better* over-all lubrication performance than ever before, under all kinds of *heat* and *water* conditions.



3. Just what is UNOBA? It's a *barium* base grease that assures proper lubrication under the most *severe* conditions. It sticks to metal surfaces with a tenacity that boiling water can't break! And it gives thorough protection at temperatures from below freezing to over 300 degrees F.



2. For example, a large California tanning firm* now uses UNOBA in *all* of its plant operations. For the company has had outstanding success with multi-purpose UNOBA in the protection of bearings under *severe water* and *acid* conditions. *Name available upon request



4. Because of this flexibility, multi-purpose UNOBA *simplifies* lubrication. It performs on jobs formerly requiring *many* different types and brands of grease. And this results in reduced inventories, smaller storage space, less chance of using the wrong lubricant, and *lower* maintenance costs.

Let your Union Oil Representative tell you the complete UNOBA story, or write Sales Dept., Union Oil Company, Los Angeles 17, Cal.

76 **UNION OIL COMPANY** **OF CALIFORNIA**

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B
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Continued from page 27

Pulp

All mills in Pacific Northwest and British Columbia are continuing to run at maximum capacity on 7-day week. Prices are holding firm. Northern European suppliers, despite exchange advantage, are not depressing American market. Mills have absorbed wage increase amounting to about 7½¢, but expressed mainly in welfare and extra holiday provisions. Washington mills, faced with pollution commission ultimatum, are giving corrective measures serious engineering attention, but compliance within ultimatum time is impossible. Commercial scale pilot plant in a smaller Oregon mill will operate in Fall and should provide some of the answers. Overall tendency in industry is toward higher quality. MacMillan interests, building new mill at Nanaimo, B. C., will install first bleached kraft process in U. S. using chlorine dioxide process.

PULPWOOD

(Pacific Northwest)

(Cords of 128 cu. ft., roughwood basis.
Source: Bureau of Census)

	March 1949	March 1950
Receipts	207,096	222,142
Consumption	299,282	334,936

Plywood

Prices have strengthened again, but mainly to cover recent wage increases, up roughly \$1 per M feet. Production is at capacity, order files overflowing. Logs are main problem, a hangover from the tough winter and very slow Spring which has kept loggers out of higher elevations. Top peeler logs running \$80 and \$90 per M board feet, with occasional offers by mills up to \$100. Operators are lowering minimum diameters on peeler logs under pressure of shortage and now take them at 26", sometimes 24". Plywood sales managers are generally keeping their heads and trying to keep market from running away. Inventories of jobbers and retail yards are low, pressure from buyer to seller "to give me some at any price" is building up. Continued boom in housing is strong peg under price situation.

SOFT PLYWOOD

From Bureau of the Census

PRODUCTION

(in thousands of square feet)

	1949	1950
March	235,291	179,336

Furniture

Manufacturers are currently in the usual slow-down period just before the big market weeks in major cities, meanwhile getting geared up to new designs.

Cue for a reasonably good season ahead is given by retail sales, which are holding up well. Expectations are that they will continue good throughout the Fall.

Particularly strong is outdoor furniture in redwood, aluminum and rattan. Western factories are cashing in on promotion during recent years of the "outdoor living" theme particularly featured by the California industry. Deeco, largest maker of aluminum furniture, has built up such a demand it is

operating a new Eastern branch plant at Pittsburgh.

Manufacturers are beginning to feel a bind in materials, with some types of lumber not only getting more expensive, but actually in short supply.

The industry in Pacific Northwest, employing some 2,700 people in 41 plants, is in enviable position. Backlog orders on case goods extend over to August and upholstered goods are five weeks behind. Large number of new housing starts is fine shot in arm for furniture and in addition industry is actively promoting "Home Fashion Time" to shorten furniture replacement cycle in all homes. No clouds on the horizon to darken this bright picture and prospect is that current pace will carry through for next two or three years.

Sugar

All records for sugar refining in the West probably will be broken this year, with probably 13 million bags of beet sugar coming up and 14 millions of cane. Although there has been some recent price strengthening, prospects are not good for a profitable season, because the price level is lower than last year. California's crop is expected to be around 8 million bags, of which Imperial Valley will contribute 2 million.



Use of liquid sugar is continuing to increase, particularly in the canning industry, and within another year it is expected that practically all of the larger canneries will receive their sugar in this form.

Apparel

New squeeze is being put on apparel makers with brisk advance in textile prices. Wool futures are at new seasonal highs, and the nation's largest buyer, the U. S. Government, is being quoted prices 45 cents a yard higher than last Fall.

Purchase of cotton fabrics by mills has spurred about 50% in the past few weeks, with prices up a little after declines over the past six months. Manufacturers apparently have decided not to delay purchases any longer because of the indications that inflationary rises are in the making.

The U. S. Department of Commerce estimates that at current manufacturers' prices, the western apparel market has been growing at the rate of \$50,000,000 a year. Yet western apparel makers ship only a trifle more than 4% of the U. S. total production, and actually are supplying only about a third of the West's own demands. There is still a one-billion-dollar market at hand in the western industry's own back yard—enough to provide more than 100,000 jobs in apparel manufacturing, the Department said.

Retail sales in West Coast department

stores have begun to improve, although up till now they have been lagging below last year's marks. Poor weather this Spring has laid basis for some hope that delayed purchasing power will make itself felt this Summer.

Canning and Packing

Six months ago the fruit canners on the Pacific Coast would hardly have given a thin dime for the outlook for the 1950 season, but the fog has cleared up considerably as the result of heavy shipments all Spring, although at sacrifice prices, reducing inventories to about one-third less than a year ago. Then prices began to strengthen in the late Spring, and now that the canneries are entering the big operating period, things are fairly well in hand, although the question is (as always) whether there is a profit to be made on a commodity which you buy before you know (1) how much it will cost you to process it, (2) how much you can sell, and (3) at what price.

The big stabilizing factor is the California canner-grower agreement to limit the peach pack by estimating the market potential and then thinning the trees to cut down the fruit tonnage accordingly. Early estimates were for a 505,000-ton crop, of which about 400,000 tons could safely be packed. Apricot crop estimated at 206,000 tons (last year 165,000 tons). California Bartlett pear crop expected to be about 275,000 tons; cherries estimated 31,000 tons (last year 44,000). Canners paid 1¼¢ more for green asparagus this year than last, and 1¢ on white, also had their costs upped by the fact that fresh asparagus market was so strong that canneries had to run intermittently. Pack probably about same size as last year. California growers planted 79,000 acres of tomatoes this season (75,440 acres harvested in 1949, but yield of 13.3 tons per acre was all-time high).

California tuna pack first quarter of 1950 1,105,979 cases, gain of 334,924 cases over same period 1949. Grated tuna increased from 103,246 cases first quarter last year to 355,257 this time. Skipjack also nearly doubled. Yellowfin pack somewhat down. U. S. tuna pack for 1949 was 7,200,000 cases, all-time record. Northern California sardine packers had their first sample cutting this year.

Spurred by truck competition, railroads have reduced dried fruit rates as much as 17.4% on some items. 60,000 lbs. Fresno (the big raisin center) to Chicago now \$1.70, down 36¢.

Chief news on canned salmon centers around labor difficulties, a recurrent seasonal problem of increasing intensity, involvement and general nastiness. Problem has two phases. On the one hand there's haggling over prices to be paid for fish; on the other is jurisdictional battle between two CIO elements of the cannery workers. That there is Communist infiltration is accepted common knowledge. Basic motives in tie-ups are hard to discern on surface, are not always just better pay and better price. Jurisdictional strife has tied up cannery supply ships. Copper River season opened in Alaska May 1, to run to June 15, but in fourth week in May fish price still unsettled. However, some canneries have swung into production in two or three more northerly areas. Long range estimates for season's Alaska pack is about 4,000,000 cases.

For STEEL



in a hurry



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Wherever you are in America, there's a well stocked Ryerson steel plant within quick shipping distance. From thirteen strategically located points, Ryerson carbon, stainless and alloy steels in thousands of kinds, shapes and sizes are ready for immediate delivery.

By carefully specifying and checking, we are able to certify to the consistently uniform high quality of our steels. And to help you select the type best suited to the job at hand, the services of experienced Ryerson specialists are always yours for the asking.

Widely diversified Ryerson stocks enable you to procure many steel requirements at the same time from the same source. One order — one invoice does the job. So save time, save paperwork and be sure of uniform quality. Call Ryerson when you need steel.

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Joseph T. Ryerson & Son, Inc. Los Angeles Plant: Box 3817, Terminal Annex; Phone: ANGelus 2-6141. San Francisco Plant: Box 188, Emeryville; Phones: OLYmpic 3-2933 — ENTERprise 10176. Other plants: Chicago • Milwaukee • Detroit • St. Louis • Cincinnati • Cleveland • Pittsburgh • Philadelphia • Buffalo • New York • Boston



RYERSON STEEL

WESTERN INDUSTRY



Now You Can Supply Uncle Sam's Needs and Make Money At It

WESTERNERS (manufacturers and suppliers, that is), are in luck. You can now supply Uncle Sam with your goods and services (both civilian and military) on your own home ground, in a competitive market, at a profit.

No longer is it necessary to bid on Government invitations where you are required to ship part of your goods somewhere east of the Rockies in order to get a contract.

Uncle has finally decided that since these goods and services are used in the West, he might as well buy them in the West (and have them shipped to Western points) close to their point of use or ready for transpacific shipment.

The fact that delivery points are now more widely scattered (instead of at only a few nationally centralized warehousing locations) is the fundamental reason why Westerners can ring in on this new system to their profit.

Despite unfavorable freight rates which might operate against fullest participation, many deliveries are to military and civilian supply centers in your own area. And Western firms can often supply places like Albuquerque or Ogden or Stockton or Seattle or Benicia Arsenal or Treasure Island to a better advantage to the Government than can eastern firms.

Institution of this new procurement program information does not mean

By **MERRILL F. WOODRUFF**

Business Specialist,
U. S. Department of Commerce
Northern California-Nevada Region

that purchase contracts are automatically guaranteed to any businessman who avails himself of the service. It does mean that you will be able to keep yourself posted on what the Government is buying and that you will have sufficient time to develop your cost and production figures, should you decide to enter a bid.

In general, this is what has happened: The U. S. Department of Commerce has signed procurement information agreements with the Department of Defense and the General Services Administration. Immediately resulting from this is a daily report available to all interested businessmen, that tells you what the Government wants to buy in the immediate future.

Quick availability of this information to possible suppliers in the Western States should prove particularly beneficial to the small businessman who frequently is unaware that he is producing an item or performing a service for which the Federal government may be in the market.

Roughly, this is the way bidding procedure used to be done:

As a manufacturer or supplier you would find out from the U.S.D.C. field office or the various Federal agencies, which ones bought the sort of material you had for sale or could manufacture. You would then write to those agencies and request that your name be put on their mailing list for bids on that material. In course of time, invitations to bid would be received for your consideration.

But, if you did not bid, or did not acknowledge receipt of the invitation (and express the desire to continue receiving bid invitations from that agency) your name would usually be dropped from the mailing list.

Now, although the system has not been changed, and can still be used, you can for yourself decide what items you want to sell in advance. It works like this:

Bid information concerning substantial requirements for some 66 military agencies and 12 regional Federal supply service buying offices (who do the principal procuring for civilian agencies) is all consolidated on a daily mimeographed bid synopsis list. This daily bulletin is given to all interested parties who are prospective bidders. It is issued by the U.S.D.C., and is available at any of the department field offices as well as at many local chambers of commerce, development

associations and trade associations in principal cities.

Department of Commerce Field Offices in the West where these synopses are available daily are at: Albuquerque, New Mexico; Butte, Montana; Cheyenne, Wyoming; Denver, Colorado; Los Angeles, California; Phoenix, Arizona; Portland, Oregon; Reno, Nevada; Salt Lake City, Utah; San Francisco, California; and Seattle, Washington.

Some of the cooperating agencies in Northern California are: San Francisco Chamber of Commerce; San Jose Chamber of Commerce; Sacramento Chamber of Commerce; Richmond Chamber of Commerce; Alameda Chamber of Commerce; Oakland Chamber of Commerce; Fresno Chamber of Commerce; Stockton Chamber of Commerce; Berkeley Chamber of Commerce; California Manufacturers' Association; and California Metal Trades Association.

Similar civic or trade groups throughout the entire West are cooperating in making these lists available. The California Metal Trades Association for example, makes their own weekly synopsis for member firms on which they list only those items they feel would be particularly advantageous offerings for their members to make.

These daily Federal synopses show the procuring office, invitation or bid number, quantity desired, bid opening date, and material required. Generally, all bid invitations listed are for goods or services amounting to \$1,000 or more.

Your initial bids may be exploratory. It may take you a little time to find out how you compare with your competition, pricewise. But you will get your name on that procurement agency's books, and you may be in position to find out how you stand.

Sometimes, on request, bidders can

Here is the way to work your bidding procedure, according to this new and easier method:

1. Watch daily synopses.
2. Study each synopsis for items that you may be in position to provide. When you locate something that could employ your plant's capacity or equipment, the next step is:
3. Go to the most convenient Department of Commerce Field Office and look at a file copy of the bid. That will give you much more detail about the proposed purchase and will show where and how the delivery is to be made. In some cases drawings and specifications are attached to the bid. Indexes to all government standards and specifications can be consulted there. One look will be enough to tell you most of what you want to know, which is—
 - (a) Whether you can produce it, and
 - (b) Whether the delivery point is within your competitive area.If you are satisfied on these two points, then
4. Write or wire for a set of invitations to bid and the necessary drawings and specifications for your own use. When you get them
5. Sit down with your plant men, engineers, etc., and do the necessary figuring. Then
6. Send in your bid.

A study of these synopses over a period of time will reveal that a number of items repeat time after time.

Here is a list of a few of the repeating items, all with Western delivery points, which have appeared recently:

Packing (sheet, coil, braided).
Rope (wire, manila, cotton).
Storage and dry cell batteries.
Building equipment of all kinds—Locks, hinges, hasps, hardware.
Chemicals—Acids, alcohols, solvents, soaps.
Metal containers—Cans, drums, pails.
Hose (fire, water, air, oil).
Welding apparatus and electrodes.
Pipe, pipe valves, pipe fittings, clamps, turnbuckles, pelican hooks, chain.
Food and beverages.
Flags and bunting.
Electronic and radar equipment and supplies.
Gas and oil stoves, ranges, refrigerators, refrigerating and air conditioning items of wide variety.
Paints, lacquers, thinners, pigments in oil, paint removers.
Pumps (water, oil, gas vacuum).
Clothing and caps.
Fabricated items to special order—Chests, dish trucks, machine parts of all kinds, special fabrications.
Non-metal containers—Wooden and fibre boxes and drums.



MERRILL F. WOODRUFF

acquire from the procurement agency a list of bidders and bid prices, on the items you, too, have offered bids on.

There is one publication issued (not by the Government but by private enterprise), which deals with this subject alone. It is a weekly called the "U. S. Government Advertiser." It is published at 511 11th St., N.W., Washington, D. C., and costs \$25.00 per year. Copies can be consulted at many libraries and Department of Commerce offices. In this periodical you can find some of the bid listings and some of the bid results, but neither is as complete as the Department Field Office synopses (for bids) or the procurement agency's own reports.

There are also local installations, both military and civilian, that buy on their own account, and represent a smaller but nevertheless a substantial amount of Federal expenditures of supplies, equipment and services.

And while the bids listed on the synopses generally amount to proposed purchases totalling \$1,000 or more, these local agency bid tenders usually range from that figure downward. Many of these agencies solicit bid offers by telephone or on short order, without all the paperwork required for larger sized deals.

In order to obtain information on requirements from any of these agencies (and a number of others—this is but a sample of them), you would have to contact each one individually. Department Field Offices can supply you with names and addresses of any local or Federal procurement agencies, military or civilian, who regularly procure items and who are not included in the daily bid synopsis.

As a supplier, when you contact a field office of the Department of Commerce for buying information on these agencies so that you can request bids from them, you should include the following information:

1. State the items or services that you want to supply.
2. Name the Federal agencies you have already contacted and from whom you regularly receive bid tenders.
3. Indicate the geographical area you want to cover.

With these procurement agencies, bidding procedure is similar to that in general practice for any government agency. Standards and specifications for the items they purchase are also listed in the Indexes.

One of the main advantages to the Government of joint procurement is that now, many large purchases of some particular types of goods are made through only one office, where heretofore each individual agency used to buy independently. The Army, Navy and Air Force now funnel their requirements into some one office that buys that particular material, and that

Military purchasing outlined by the Quartermaster General. See page 40.

office consolidates the requirements of many military purchasing officers into single bid invitations. Delivery points may be anywhere in the country and bids more often than not are so written that suppliers may bid on an f.o.b. destination basis for parts of a single bid without bidding on the entire lot.

For example, Officer in Charge, Navy Purchasing Office, Department of the Navy, Washington 25, D. C., purchases all of the following for the Military Establishment, regardless of where or to whom delivered: Tools, except edge. (Forks, hoes, weeders, shovels, tongs, scoops, and other soil-preparation and materials handling tools, hammers, pliers, screw drivers, wrenches, and other craftsmen's and repairmen's tools, jacks, and miscellaneous tools. Mechanics' measuring tools. Calipers, gages, levels, plumb rules, protractors, metal rules, scales, precision tapes, squares, straight edges, vernier measuring tools and miscellaneous measuring tools). Chests, kits, and sets of a variety of types of hand tools. Industrial cutlery, (including shoe, rubber, linoleum, woodcarver's and paperhanger's tools).

Delivery points for any of these goods brought under the Department

CONSOLIDATED SYNOPSIS of PROCUREMENT INFORMATION

Department of Commerce
San Francisco Regional Office
306 Customhouse
San Francisco, 11, California

April 28, 1950

The following is a list of proposed advertised procurement issued in accordance with Department of Commerce-Department of Defense-General Services Administration policy on the dissemination of bid information.

Individuals and companies interested in bidding may obtain complete sets containing more detailed data, including specifications, packing, delivery and other requirements by a written request to the issuing office. Such requests should cite the applicable invitation number and opening date.

INVITATIONS FOR BIDS

Copies of all the following Bid Invitations can be consulted in the Regional Office

Individuals and companies interested in bidding on any Ordnance Department Invitations listed may obtain complete bid sets containing detailed information on packing, delivery and other requirements from the San Francisco Ordnance District Office, Oakland Army Base, Oakland, 11, California

Chicago Procurement Office
Corps of Engineers, U. S. Army
Room 100L
226 West Jackson Boulevard
Chicago, 6, Illinois

Material	Quantity	Invitation No.	Opening Date
Solder, tin lead wire resincore	100 Sp.	C-1324	29 May 1950
Solder, Tin lead acid core	6,000 lb	"	"
Fencing wire, chain link, galv. 2" mesh, 96" wide	38,000 ft	C-1325	29 May 1950
Antifriction Metal, Ingot	6,000 lb	C-1326	29 May 1950
Ferro-Manganese, Briquet	6,000 lb	"	"
Tubing, copper, seamless for solder-joint or flare tube	18,200 ft	C-1327	29 May 1950
T-square, Steel, Protractor head Type II: 24 inch 42 inch	700 ea 2,000 ea	C-1332	29 May 1950
Hose, Chemical Eng. Braided Type Hose, gas, double Hose, fire, cotton	Various Quantities	C-1334 " "	26 May 1950 " "
Hose, Fire, Cotton, rubberlined, double jacket, 2 1/2" dia x 50 ft. long	1,500 ea	C-1340	17 May 1950

• This is what a daily synopsis sheet looks like, and it is here shown to give you an idea of the sorts of material put out to bid by only one purchasing agency, on one day.

Then there are other Federal agencies not listed in the synopses, but who are substantial purchasers, and who may not obtain all their requirements through the Federal Supply Service. Some of these agencies are:

Department of the Interior
Bureau of Reclamation
National Park Service
Bureau of Indian Affairs
Atomic Energy Commission (with three big Western installations)
National Advisory Committee for Aeronautics (with Ames Laboratory at Moffett Field, Palo Alto, California)
Department of Agriculture, including the Forest Service and Regional Labs.
Department of Justice (Alcatraz)
U. S. Treasury (San Francisco and Denver Mints)
U. S. Coast Guard
Public Building Administration (Including construction and maintenance of civilian Federal buildings)
Federal Housing Administration—Federal housing programs
Maritime Commission
Veterans Administration
Panama Canal

U. S. Department of Commerce field offices can give you more detailed information on these and other buying agencies that are not listed on the daily synopsis, yet who purchase sizable amounts of materials that you may manufacture or furnish.

of Defense unified procurement program might be at the Oakland Army Base, or ordnance supply center in Utah, at any Navy yard in California, Oregon or Washington, or anywhere else in the West (including export), wherever the material is needed at the time.

This is but one of the military procurement agencies whose requirements are listed in the Daily Bid Synopsis. Most of the others, as well as the civilian agencies, operate in the same manner, to your benefit. Every effort is made to list the bids as long as possible before the opening date in order that prospective suppliers can arrange to bid.

Awards are made to the lowest bidder consistent with quality and ability to produce; and firms with less than 500 employees are given preference in case of equal bids.

This opportunity to compete and to share in supplying government needs is both a challenge and an opportunity to Western businessmen. The labor force can be strengthened and employment stabilized and increased by bringing more of this business into this region.

Those who have investigated and used these bid synopses are enthusiastic on the possibility of increasing their business. Smaller firms particularly, have found this opens up to them business opportunities heretofore neglected.

Western business can check these lists daily to determine whether it can compete for some of this business. No mailing lists are maintained for this service.

No one, of course, can expect to obtain a contract on every bid submitted. But the practice of making an offering on every possible item stimulates competition. It will give the businessman an unequalled opportunity to study his own business and its possibilities.

Continued bidding and thoughtful study of results can be most beneficial in production planning, plant costs, pricing practices and an analysis of competitive position by products and by markets. Such information will permit you to test your operating efficiency. Continued study of this nature will be a most valuable aid in determining whether your Western techniques and methods are competitive.

So Uncle Sam has once again smiled upon the Western businessman. He has gone out of his way to speed the flow of Government procurement information to the grass roots of American business, and make it easier for you to do business with him.

At first we were somewhat baffled, and then fascinated by the title of this

U. S. Navy Purchasing Office
Code SPP-1
Main Navy Bldg.
17th and Constitution Ave., N.W.
Washington 25, D. C.

Material	Quantity	Invitation No.	Opening Date
Kits, steel strapping, 5/8 inch strap in wood box)		
Packed for domestic shipment	158)	2595	5/24/50
Packed for overseas shipment	367)		
Tunnel Lug Bands 5/0 Rocket Motor MK2 Mod 3	200,000	3122-0	5/22/50
Projectile Plugs, MK-3 for 5 1/54 Ammunition	30,000	3137-0	5/23/50
MK-21-0 Cattle Hair Felt Cushions	10,000)		
MK5-0 Wool Felt Cushions	1,500)		
MK30-0 Wool Felt Cushions	1,100)	3146-0	5/25/50
MK32-0 Wool Felt Cushions	3,400)		
MK34-0 Wool Felt Cushions	3,400)		

* This is page 11 of the daily synopsis sheet illustrated on page 33. Note item two: "Tunnel Lug Bands 5/0 Rocket Motor MK2 Mod. 3, on bid invitation 3122-0." A quantity of 200,000 is required. Let's follow this one through and see what it is, and whether we can manufacture it or not in our plant. The name sounds intriguing.

Standard Form 81 Prescribed by General Services Administration, Rev. 1-20-48 No 3a-3		SCHEDULE (SUPPLY CONTRACT)		FORM NO. 1	NUMBER OF PAGES OF SCHEDULE 3
REGISTRATION NUMBER OR OTHER PURCHASE AUTHORITY BuOrd Request No. 196		INVITATION NO. 3122-0		Navy 1950	
REGISTRATION ACTIVITY Bureau of Ordnance		APPROPRIATION 1701702 Ordnance & Ordnance Stores			
EXPENDITURE ACCOUNT 52460		OBJECT CLASSIFICATION Same as receiving activity			
PROGRAM NO. 55000		ALLOTMENT OR PROJECT ORDER NO.		DATE OF PROJECT ORDER	
PURPOSE		JOB ORDER, STUD OR SHIP'S REGR. NO.			
<p>The supplies or services to be furnished, the specifications, the discounts, the time and place of delivery, and any other special terms and conditions applicable to the invitation for bids, are set forth below.</p> <p>DISCOUNTS WILL BE ALLOWED BY BIDDER FOR PROMPT PAYMENT AS FOLLOWS:</p> <p>PERCENT. IN CALENDAR DAYS: _____ PERCENT. IN CALENDAR DAYS: _____ PERCENT. IN CALENDAR DAYS: _____</p>					
ITEM NO.	SUPPLIES OR SERVICES	QUANTITY (Number or Drams)	UNIT	UNIT PRICE	AMOUNT
	LOT 1				
	For Receiving Officer, Naval Ammunition Depot, HAWTHORNE, NEW., via Thorne, Nev.				
1.	Tunnel Lug Bands	100,000	Each		
	Approximate shipping weight _____				
	Volume in cubic feet ready for shipment _____				
	LOT 2				
	For Receiving Officer, Naval Ammunition Depot, McALESTER, OKLA.				
2.	Tunnel Lug Bands	100,000	Each		
	Approximate shipping weight _____				
	Volume in cubic feet ready for shipment _____				
	VARIATION IN QUANTITY: Permissible variation under Section 4 of General Provisions: Increase 5 per cent; decrease 5 per cent.				
NAME OF BIDDER					

Standard Form 81
Rev. 1-20-48

(over)

* We have seen the specifications and blueprint at the Department field office, and then sent for a set of our own. Here is a copy of the actual bid invitation, as it was sent to any manufacturer requesting it. Note that the invitation is divided into two lots for 100,000 each, both lots going to Western destinations. Now see the blue print on the next page. It comes with the specifications, and gives construction details.



• These brand new Studebaker automobile bodies have been received from the plant at South Bend, Indiana, with prime and

surface coats of paint applied over bonderized surfaces. Here they start into the spray paint room, to get the finishing coats

Spray Paint Finishing Improved By Controlled Humidified Air

STUDEBAKER-Pacific's painting system at their Los Angeles assembly plant, the largest such installation on the Coast, is distinguished by the following aspects: (1) the air in the spray booth is kept completely clear of foreign articles by a water wash; (2) the air is humidified to a pre-determined point to permit the most successful application of paint; (3) the air is then exhausted in such manner that the overspray is entirely removed.

It has been particularly welcome to E. M. Douglas, Studebaker-Pacific's vice-president in charge of manufacturing, and Howard Kyser, general superintendent, in view of the fact that the capacity of the plant has been strained to the utmost by Studebaker sales that have outrun earlier expectations. H. Erikson of the Erikson Manufacturing Co. was the designer of the complete installation.

Painting Procedure

The procedure in handling automobile bodies prior to reaching the spray booth is generally similar to those in other Coast assembly plants. Bodies are received from the main Studebaker plant at South Bend, Indiana, with the primer and surfacer coats already applied over the Bonderized surfaces. After any transit damage has been re-

paired they are wet-sanded in a 95-foot deck elevated to convenient height for the sanders, and then passed through an 80-foot dry-off oven for a 50-minute drying at 275° F.

After transfer to the No. 2 conveyor, primer and surfacer are sprayed on repaired or bare spots. Then come the following operations: (1) baking for 30 minutes at 300° F.; (2) light sanding on repaired spots; (3) dust sealing, using a special sealing compound from a 100-gallon tank under 125 lbs. pressure; (4) application of deadening or silencer compound from another large pressure tank; (5) enamel sealer on the front dash, door facings, wheel housings and under side of the trunk lid; (6) naphtha wash.

Pressure Room

Next the bodies pass into the tack-off room, the first pressurized section of the installation, which in its entirety occupies an area 60 feet long by 26 feet wide. Here all surfaces are wiped with tack rags. Then a conveyor carries the bodies into the spray booth, where three sprayers on each side apply three successive coats of finish color enamels.

From the 16 x 60 spray room, which holds four bodies at one time, the bodies are pulled along a conveyor through an oven for a 30-minute bak-

ing period at 265°-275° F. Emerging, the bodies are inspected and those requiring repair taken out of the line. The rest continue on, meeting the chassis and proceeding through the subsequent assembly operations.

Air is brought in from the outside through ceiling grilles and filters at 380 feet per minute, which drops to about 175 feet per minute close to the outlet grilles before being accelerated by the exhaust pull. It is preheated in a section having a heat input capacity of 14,800,000 B.T.U. per hour by four fuel-air proportional mixers and four Petr-O-Fire flame-retention type burners. The temperature is controlled by a butterfly-type combustion air control valve in the manifold ahead of each mixer. The re-heat section has the same set-up except for smaller units with a total heat input capacity of 4,400,000 B.T.U. per hour.

Blower Units

The eight input blowers, each powered with a 10 hp. motor, have a total capacity of 183,000 cubic feet per minute, and as the input volume is greater than the exhaust, the pressure is always outward, so that if an outer door were opened no dirt particles could drift inward. To get proper humidity, pre-mix type Bryant burners with "mixjectors" and air from Bryant

positive pressure blowers with butterfly valves, fire into six 6-inch tubes immersed in the water. Temperatures are checked with Brown indicating resistance pyrometers; a wet bulb for pre-heat and water sections, dry bulb for reheat.

Air Travel

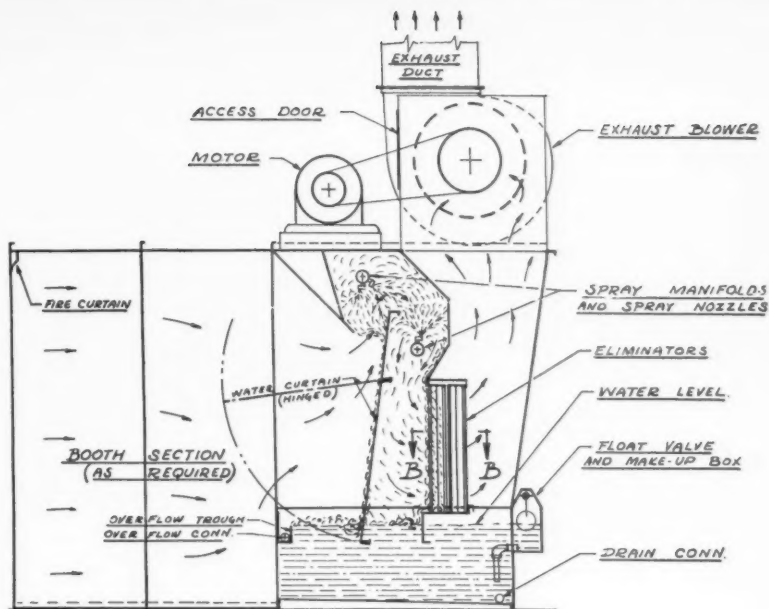
After humidifying, the air is reheated and enters the spray booth at 80° F., with relative humidity of 60° to 70°. It then passes through a water-washing process before being exhausted by 12 blowers each driven by a 7½ hp. motor, the total exhaust capacity being 175,000 cu. ft. per minute.

When the pigment-laden air is drawn out of the booth and up behind an inward-sloping metal shield, it meets a downward spray of water from nozzles spaced nine inches apart in a horizontal manifold. This action causes many of the particles to combine into larger particles, which have a tendency to precipitate into the collecting tank or sump.

Air Cleaning Action

As the air and remaining particles of pigment pass on over the water curtain shield and start moving downward, as shown in the accompanying diagram, they are followed in "rear attack" by spray jets from another set of nozzles in the same manifold at about 25 p.s.i. pressure at the nozzles. The particles are again hit and driven together by water impact at an acute angle of incidence to the general direction of air flow.

In further downward travel, the heavier particles drop into the collecting tank, thus ridding the exhaust



SECTIONAL SIDE VIEW

• A cross-section view of the air cleaners shown below on the right.

stream of the major percentage of pigment particles. The rest are carried on at an increased velocity as they approach the exhaust blowers through double vertical eliminators in which there are six turns or bends through which the air travels at 600 feet per minute. Here most of the particles in the moist air are driven by centrifugal force against the sides of the eliminators, where they are washed downward by a cascade of water into the collecting tank.

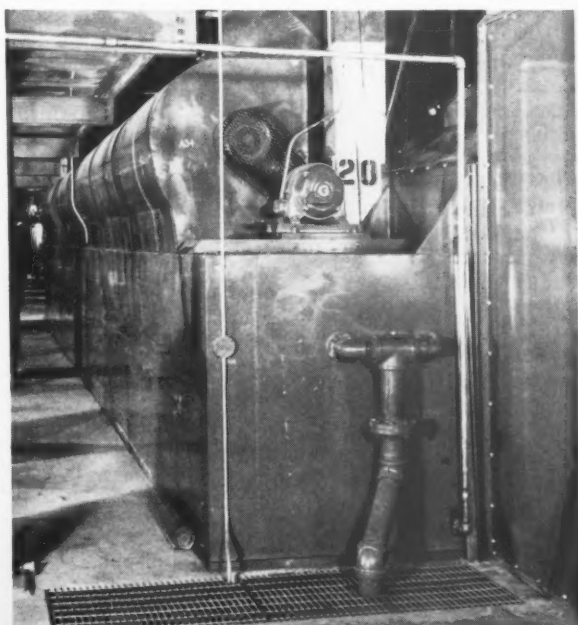
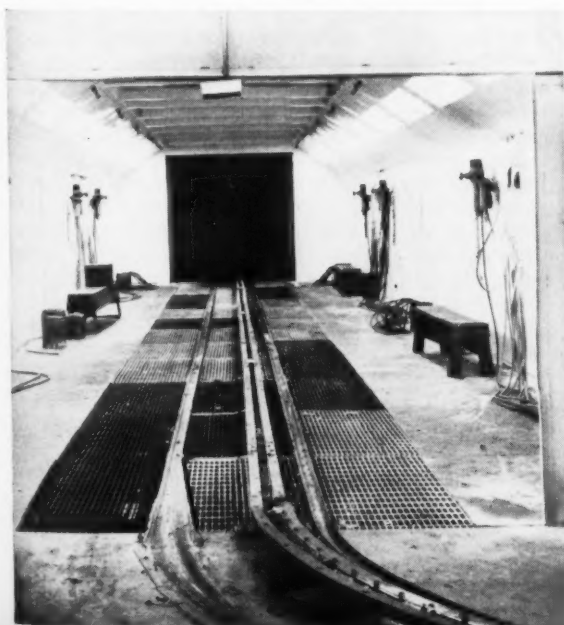
By the time the air leaves the exit sides of the eliminators at 400 feet per

minute, the last of the pigment particles and virtually all of the moisture have been "rubbed" out of the onrushing air, which is then drawn up through the blower and out the exhaust stack, completely free of excess moisture.

When the overspray settles in the collecting tank, the reaction of a wetting agent dissolves the sticky part and only a gummy residue remains. Every eight weeks the tank is cleaned out and recharged. The water in the sump is circulated by eight 490-gallons-per-minute Westco pumps with 10 hp. motors.

• The spray paint room is 16 x 60 feet, holds four bodies at once. Sprayers on each side apply successive coats of finished color.

• This battery of air cleaners keeps the atmosphere in the spray paint room at optimum quality for the most efficient application.



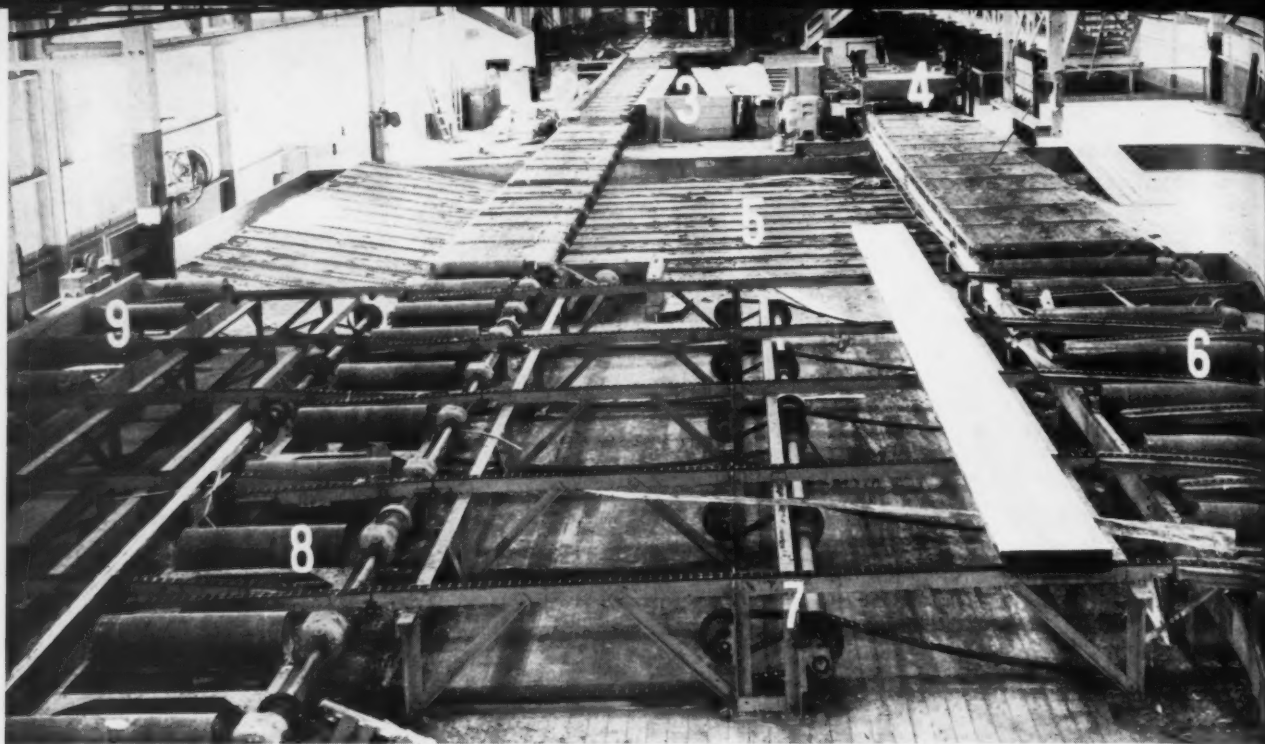
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• Typical section of sawmill, showing type of transportation system that handles output of headrig or bandsaw (1) in the background. (2) is a push button station at the end of two sections of 14" x 48" live rolls. (3) directs cants to either bull edger (4) or straight through to timber cut-off saw on 12" x 48" live rolls (8). (5) is a transfer chain. It moves slabs transversely to bull edger. Trimmed pieces from slabs dump from 14" x 72" live

rolls on discharge side of bull edger into slasher pit (5), which carries them to automatic cut-off saw. (6) is 14" x 72" live rolls, with two sections of hinged transfer chain. These drop cants on or lift them off live rolls for transverse movement to 12" x 48" rolls (8) which lead to cut-off saw, out to timber deck, or to pulp cant cut-off saw on live rolls (9). Cants move about 400' per minute. (7) is a typical transverse cant transfer.

Materials Handling Lesson in a Northwest Lumber Operation

ADAPTATIONS of material handling that may have application to various other industries, particularly in the use of conveyors, are to be found in the Weyerhaeuser Timber Company's new sawmill at Springfield, Oregon. Designed to utilize mechanical handling methods as far as possible, its conveyors permit fast, economical transportation between machines in the sawmill and also between buildings.

One of the obstacles to be overcome in the lumber industry is that the raw material is extremely variable in size, shape and quality. Unlike ingots, steel plate, castings, small parts, sugar or peaches, no two logs are ever identical in size, quality of wood or the growth

characteristics which determine "pattern" in lumber.

Two trees of the same age, even though grown and harvested together, will not produce the same number, size and grade of lumber pieces. Consequently volume output depends largely on the judgment of experienced men, adept at "sizing up" individual logs for best positioning on sawing equipment. Some machine units have multiple saws which must be adjusted to "fit" individual boards or slabs to recover the maximum of lumber quality.

Weyerhaeuser's sawmill at Springfield is a medium-sized mill, cutting about 300,000 board feet daily, principally Douglas fir and minor species. Its mechanized conveying system can

be divided into two sections, the breakdown and the remanufacturing.

In the breakdown section the principal material handled is slabs (outside or curved portions of logs), cants (thick rectangular flitches up to 12" x 54" in cross-section) and timbers (generally structural pieces cut to dimension from the center of logs or from cants). These items come in lengths from 16 to 42 feet. The handling system must be substantial and powerful to convey such bulky and heavy items, because green Douglas fir lumber weighs about 3,300 pounds a thousand board feet lumber tally.

Forward movement in this section of the mill is provided by live rolls. These are electric motor-driven rollers

ranging in diameter from 10" to 14" and in width from 30" to 90". Rolls are generally chilled cast iron; if subjected to heavy impact loads, they are cast steel. In places where they exceed 48" in length live rolls are made of extra strong steel tubing. Anti-friction bearings are used wherever possible.

Rolls are mounted in line on sections of structural steel framework, each roll section being driven from one line shaft. Roll speeds directly behind the big band saw usually move lumber cants forward at 350-400 lineal feet a minute.

Parallel roll sections are interconnected by sections of slower moving transfer chains. These chains extend into each section of rolls and have a movable hinged section, so that cants and slabs can be dropped on or lifted from one roll section and transferred to a parallel section. With push button or foot pedal controls, different types of slabs or cants thus can be routed to the proper machines for further manufacture.

In the remanufacturing section of the sawmill the principal item handled is lumber in lengths up to 40', thicknesses up to 8" and widths to 14", resulting from the gradual breakdown of thick cants into boards. Because these pieces are not as bulky and heavy as cants and slabs, lengthwise travel in the Springfield mill is effected through fast moving rubber belting and transverse travel through slower gaited transfer chains.

All lumber running on these belts is finally discharged onto sorting tables. Operator-controlled baffle plates or

mechanized "drop-outs" separate lumber passing over sorting tables and drop it on one of several rubber belts for delivery to other machines. The large-scale substitution of rubber belting for live rolls is becoming more prevalent in West Coast sawmills.

General conveyor arrangement and basic assembly of machines in the breakdown section of the Springfield mill resembles that used in most West Coast mills.

Principal physical difference is the lack of obstructing pillars, effected through the use of prefabricated Weyerhaeuser Monocord roof trusses,

HERE is a list of principal suppliers of belting chains, structural framework, etc., for Weyerhaeuser Timber Company's Springfield, Oregon, plant. Numerous other small parts suppliers also entered into the contract work, but lack of space prohibits their inclusion.

American Rubber Manufacturing Co., Oakland, Calif.
Link-Belt Co.
Chain Belt Co.
Puger Sound Machinery Depot, Seattle, Wash.
Mathews Conveyor Co., Seattle, Wash.
Sumner Iron Works, Everett, Wash.
A. Young and Sons Iron Works, Portland, Ore.
Stephens-Adamson Manufacturing Co.

which make possible clear spans in widths up to 120 feet. The use of three shades of green paint, varying from light to dark from ceiling to floor level, improves working environment as do banks of fluorescent lighting in important areas like the headrigs.

Weyerhaeuser's Springfield mill has been designed for the type of timber harvested from the company's adjacent tree farm lands, which runs heavy to clear grades.

To achieve maximum recovery, both for lumber and for the Kraft pulp mill which derives a large share of its raw material from milling by-products, two headrigs, a big and a small one, cut cants from logs. Small diameter logs for the latter are trimmed to short lengths.

Another unique feature of the sawmill is that all sawlogs are first hydraulically debarked, so that milling by-products will be bark-free for pulp mill use. This improves sawmilling procedure, because the sawyers and other machine operators can size up the bare logs more readily to appraise their cuts for lumber quality. The saw-



• Cut-off saw trims timbers to length. It is fed from 2 lines of roll cases. Chain transfer moves timbers from roll cases at right.

mill is also more debris-free because of absence of bark residue which normally accumulates on conveyor lines.

Traffic custodian for the fast-moving rolls in the sawmill is the push-button man. Perched in an open cage above the speedy lanes of lumber traffic, he has before him a keyboard of control buttons. These route cants to various machines, according to grade and size of lumber to be produced.

The operator's job is to judge the cant as it leaves the headrigs or bull-edger and then "impulse" the correct transfer chains between parallel roll sections. By thus clearing the right-of-way, each cant reaches its correct destination, whether it is the pony band saw, gang saw, cut-off saw, pulp saw or gang of trimmer saws.

The accompanying flow chart indicates the merry-go-round of lumber handling which occurs in the remanufacturing section of the sawmill, as lumber is transferred between machines. It has been truly stated that any man who lets a board get by will soon see that board return on another belt or conveyor. Woe to him who thinks he can dodge the responsibility of sending a board to the proper machine.

Lumber handling in the remanufacturing section is dependent upon rubber belting moving about 400 lineal feet a minute and transfer chains connecting these main lines of travel. "Drop-outs" described previously separate lumber from any line of travel and divert it to one of several machines, in an almost endless combination of routings. Ability to by-pass



• Log haul into sawmill from pond is 250' long. Logs are transported on manganese steel chain, flights spaced on 12' centers.



• In planing mill 380' of overhead 36" rubber belt starts sawdust and planing chips on their way to power house for fuel. This is beginning of 2,570' conveyor to power plant.

lumber speedily is the principal requirement in this section of the sawmill.

Equipping the Springfield sawmill with mechanized conveyors for handling lumber of all kinds and sizes required almost 17 miles of chain, including 62,000 lineal feet of lumber transfer chain, principally of the H78 type.

Roller chain for driven machinery, such as live rolls, totalled 16,000 lineal feet. Miscellaneous chains comprised 2,000 feet. Refuse conveyor chains, to carry off sawdust, bark and sawmill offal, used 7,000 lineal feet. 3,600 lineal feet of rubber belting was employed in the sawmill.

Twenty-two electric motors, ranging in horsepower from 3 to 15, drive nearly 300 live rolls on 22 sections in the breakdown section of the sawmill.

About 90 steam lift cylinders power the hinged transfer sections which lift cants and slabs from one section of

live rolls to transfer them to another.

An outstanding factor of the Springfield mill is a unit package transfer system, consisting of covered "tunnels" through which the lumber moves on conveyor chains under cover except for the short distance from the lumber stacker building to the dry kiln. It eliminates outside handling of lumber between buildings, where the conventional straddle carriers are commonly used.

Here's how this labor-saving system works. Within buildings lumber is stacked in packages classified according to grade and size. Packages are picked up by overhead bridge cranes, of which there are nine in the five buildings comprising the plant. Cranes perform the dual function of taking packages from or bringing packages to the raised deck of the unit transfer system, which extends between related buildings.

Packages carried from this deck

may feed various machines, such as in the planing mill. Packages brought to the deck are finished items from machines, proceeding to another progressive manufacturing step or perhaps to the shipping shed.

Each unit transfer conveyor tunnel carries two strands of Rex 1919 chain, designed to carry various lengths of 4' x 4' packages of lumber stacked end to end. Lumber packages are set longitudinally on this transfer chain and are supported by bunk blocks placed crosswise on the chains. Chains are stopped automatically with electric-eye shutoffs at the discharge end.

One strand of Rex #2404 chain traveling in opposite direction from the loads returns the bunk blocks. Chains carrying the lumber travel about 50' a minute. Aggregate length of this unit transfer system is 2,840 feet and 18,000 lineal feet of chain is used to move lumber semi-automatically.

Another transportation system meriting special attention is the rubber belt fuel conveyor, totalling 2,570 feet in length. Starting overhead at the back end of the planing mill, it travels 380 feet through this building, receiving sawdust and planing chips exhausted from six planing machines.

This conveyor subsequently also receives "hogged" dirty milling by-products from the sawmill. Fuel is transported directly to the top of the power house, through which it is carried by a fuel-chain conveyor for automatic feeding to the furnaces.

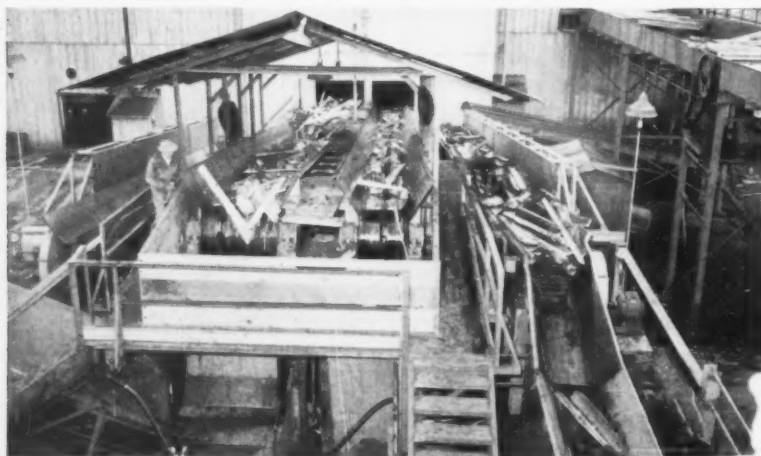
Excess fuel from the boiler room is discharged onto a rubber belt conveyor which carries it to an outside hog fuel stock pile. The 7,100 feet of rubber conveyor belt used in the entire system varies in width from 30" to 36" and the longest single pulley-center length is 906 feet.

The conveyor system integrating the sawmill with the Kraft pulp mill is another maze of chains and rubber belting. The function of this system, which carries chips made from all types of sound sawmill leftovers and other wood, is to feed raw material from eight sources to three chipping machines.

This raw material includes the various types of sound sawmill by-products, farmer logs and logs from Weyerhaeuser's 190,000-acre Calapooya tree farm. A secondary conveyor system recovers dirty wood, bark and sawdust and brings it to the hogs for conversion into power plant fuel.

All of these systems are notable chiefly for the intricate network of conveyors concentrated in a small area to handle maximum volume cheaply.

• Three of four conveyors that deliver milling by-products from the sawmill are shown here. Two conveyors in the middle bring clean trimmings (left) and slabs (right) to sorters, who separate the chippable wood from fuel type wood. Slab barker is in right foreground. Elevated conveyor, far right, brings cants unsuitable for lumber to chipper.



Quartermaster General Outlines Benefits of Unified Procurement to Western Businessmen

WITHIN the past few weeks we (U. S. Army Quartermaster Corps) have simplified procedures for regular advertised procurement. All specifications, both primary and secondary, now will be referenced in the invitation to bid.

Procurement offices are now required to have on hand all appertaining specifications so as to make them readily available to any bidder.

Other steps in this direction include the breaking down of procurements into the smallest lots practicable, permission for a potential supplier to bid on any portion of a requirement, and the designation of an officer at each procurement agency and in my office to give special attention to small business firms.

In the matter of encouraging small business the Quartermaster Corps has a good record. A study of all Quartermaster procurements for the past year shows that approximately 72% of all these actions was with small business.

As a further aid to small business, the Government has recently set up an organization for circulating information concerning bid invitations for all the Federal procurement agencies including those of the Armed Forces.

(Ed. note: the lead article in this issue, entitled "Now You Can Supply Uncle Sam's Needs And Make Money At It" is a comprehensive discussion of that program.)

Another aid for business, both large and small, will result from the standardization of specifications, which is part of the unification program. The Army, Navy, and Air Force are working toward standardization in all fields where there is a mutual interest.

Wherever possible, identical specifications will be adopted for all the services. Standardization has already been accomplished in such items as cotton underwear, sleeping bags, socks, sweaters, batteries, and subsistence. Others are in process.

Eventually all military supplies will be procured over *Military or Federal* specifications. As soon as existing specifications are converted—and this will take time—there no longer will be any Quartermaster specifications; no Army, Navy nor Air Force specifications. This program presents many difficulties and an enormous amount of detail. However, all branches of the Armed Forces are working toward this objective. Standardization will help businessmen by making it easier to



MAJ. GEN. HERMAN FELDMAN
Quartermaster General, U. S. Army

EDITOR'S NOTE: This discussion by the Quartermaster General is an important addition to the information contained in this month's lead article entitled "Now You Can Supply Uncle Sam's Needs And Make Money At It." General Feldman is concerned with the small businessman, and here are presented some data of prime industrial interest to you.

produce common items for all the services from the same specifications.

Another field in which unification is progressing is the designation of single procurement agencies. Ad hoc committees are working through the long list of commodities. The trend is steadily in the right direction.

Single procurement will also help the businessman by making it possible for him to have all of his Armed Forces dealings with one agency. Further, it will tend to obviate any future possibility of different services competing with each other.

HERE are listed procurement expenditures for the three Western QM Marketing Centers during 1949:

Seattle (fresh foods).....	\$16,000,000
San Francisco (fresh foods).....	38,000,000
Oakland QM Procurement Agency (non-perishable foods)	28,439,000
Los Angeles (fresh foods).....	21,514,000

These procurement figures above cover only the centralized purchases made by the agencies. They do not include local purchases made by Army posts, camps, and stations.

Also not included is the business obtained by Western suppliers awarded contracts for supplies purchased by QM procurement agencies in New York and Chicago. This includes supplies other than subsistence. Such contract awards are not broken down by states or regions.

Principal (but not all) procurement expenditures and civilian payrolls (not including military) last year in Western QM installations accounted for more than \$123,500,000.

Quartermaster-operated installations in the West are:

Ogden, Utah: Utah General Army Depot.
Auburn, Washington: Auburn General Army Depot.
Seattle, Washington: Seattle QM Market Center.
San Francisco, Calif.: San Francisco QM Market Center.
Lathrop, Calif.: Sharpe General Army Depot.
Oakland, Calif.: Oakland Division, QM Industrial Mobilization Office.
Oakland QM Procurement Agency.
Oakland QM Petroleum Division.
Los Angeles, Calif.: Los Angeles QM Market Center.
Mira Loma, Calif.: Mira Loma QM Depot.
San Diego, Calif.: QM Market Center Field Buying Office.

QM Market Centers purchase more than 100 different kinds of fresh meats, fruits, vegetables, fish and other water foods, dairy products, and frozen fruits and vegetables.

Oakland QM Procurement Agency buys non-perishable foods on the West coast. These foods are canned, dehydrated, or otherwise processed.



• Picture of a man taking a picture of his product. He is saving his firm a good bit of money on this film by doing part of the photography with his home outfit.

Put Your Product In the Movies

It's Cheaper Than You Think

By H. B. BUTLER

W. A. Palmer Films, Inc.,
San Francisco

ONE of the most effective ways to tell your public about your company and your products is through motion pictures.

"But," you object, "motion pictures are too expensive for us. We agree that it's an excellent idea and a logical medium, but our limited advertising and sales promotion budget isn't large enough this year to take care of making a movie."

A few years ago you would have been right. But this year, it's not necessarily so.

If your company is concerned over the expense of producing that film you have wanted to turn out, here are some ways that a professional producer can help you to make it inexpensively.

How to Do It

For one thing, you may assign some person within your company to do the photography, as a definite part of your long-range program. This method has many advantages for your company, particularly when your shooting program extends over a considerable period of time or involves traveling great distances on location.

Where this film work is undertaken as part of your company's operation, you should consult the professional producer in advance. He will tell you

many "wrinkles" that can save your time and money.

Because of his broader experience, the professional is in a position to anticipate some of your problems for you, and show you how to avoid them. Besides improving the finished quality of your picture, your foresight in consulting him will certainly reduce the final expense of your film, and provide it with a professional complexion.

An Example

An outstanding example of this smooth coordination between business firm and professional producer is to be found in the production of Bechtel Corporation's film "Super Inch," just released.

On that corporation's staff is a highly competent photographer and writer who plans the films and directs production activities. The professional studio is consulted from time to time during the process, and offers the necessary services and facilities. Upon completion of Bechtel's shooting schedule, their film is taken to the studio.

Under close professional cooperation, that film goes through a series of cutting, editing, and recording operations before it emerges in its final form.

"Super Inch," telling the story of

laying P. G. & E.'s gigantic pipeline, will assuredly find an enthusiastic reception wherever it is shown throughout the United States. It obviously has the earmarks of professional ability and finesse, yet its cost was but a fraction of that of a full-feature production.

"But," you still object, "in the first place, we haven't anyone like a first class photographer working for us. We used to have a man who took lots of movies of our company activities, but we could never use them. They were too disconnected. Once we did have a film made for us, and it really went over—but we can't show it any more because the clothes and automobiles in it are out of style now, and it would be dated."

The Happy Solution

If your company is in a similar position, the professional producer can probably provide you with a happy solution, both effective and economical.

Your films that are now unused—just collecting dust on your shelves—could be an advertising vehicle of great potential force. Whether they are a result of your company's project or produced by an employee's private enterprise, the professional can con-

vert your material into a finished movie with good form and meaning at a surprisingly low cost to you.

Until your amateur (or outdated) films have been edited and properly organized, and in some cases given a sound track, they are practically useless to you. They are much like the pieces—component parts of a unit your company may manufacture. As separate pieces they don't make much sense. But when they are properly assembled by someone who knows what he's about, they become a useful thing of quite different character.

Sometimes such material may be considered to be in final form (you may have one like this). But it may still fall far short of the effectiveness and real results it could produce for you because of the way it was put together.

Where this is the case, a bit of judicious editing plus perhaps addition of a few scenes of professional calibre can add that punch that's necessary for your film to achieve a really effective message for you.

Bits and Pieces

Some examples might be offered here of films that were composed of such sorts of pieces, and what happened to them.

Two recently released films about food products, which are quite different as to form and method of treatment, are alike in that a company employee took the pictures.

One of these is sponsored by D'Arrigo Brothers Company of California, broccoli and celery packers in Santa Clara and Salinas valleys. That film first saw light of day in the form of about 2,000 feet of amateur and semi-professional colored movies of the company's growing and packing operations.

To this original amateur footage was added professional footage of a



H. B. BUTLER

few additional scenes showing cooked and uncooked broccoli.

Aside from this small amount of additional shooting, principal functions of the professional were organization, editing, and finishing. A good narrative script was developed to provide complete continuity in this pictorial story of broccoli raising.

Finished Picture

End result was an 800-foot color and sound film that proved itself as an especially bright and interesting movie for both trade and general showings, and it cost far less than a complete commercial production.

Another combination of amateur photography and professional finishing is the Wilbur-Ellis' film "Land of the Southern Star."

That film was designed to present the colorful background of Peru, where Southern Star bonito, this Wilbur-

Ellis fish product, is packed. A major part of the photography was done by the company in Peru; it presents a good variety of scenery and folklore.

At the professional studio in San Francisco, a grocery store sequence and a few shots of tempting bonito dishes were added before final editing.

Editing such footage calls into play many skills of the professional technician. Photography involved may have been done over a considerable time period, and under many difficult conditions. As a result, such a film will usually represent color values, style, and quality that do not balance in harmony and might not do justice to your product or your company.

In expert hands, this lack of uniformity can be minimized by means of printing and lighting techniques, and by intelligent cutting. Continuity is further established by a carefully thought-out narrative, and with appropriate background music and sound effects.

Professional Finesse

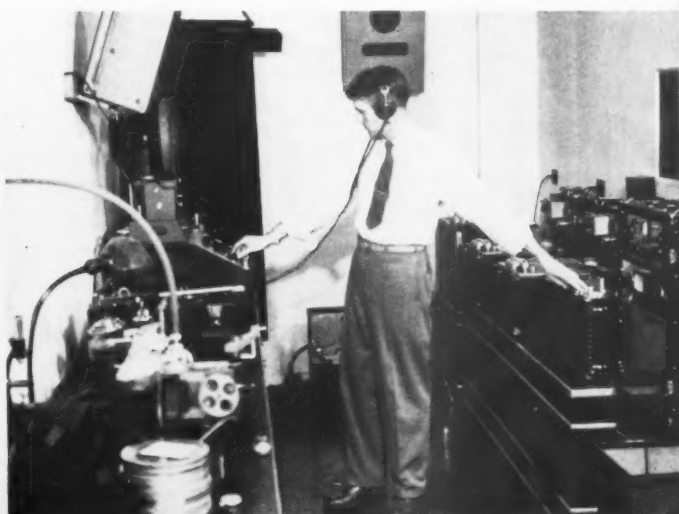
Wherever interesting footage exists (and most companies have some of their own or can get it) there is excellent opportunity for an effective company movie.

But—having such elementary footage, your potential cannot be fully realized until and unless you (1) define your film's objective; (2) organize and finish it properly; (3) produce an acceptable sound track; (4) possess the technical ability and equipment to improve your film.

All that adds up to professional finesse, and there's where you should call in the professional producer. He is the one person who can transform your "pumpkin" film into a "Cinderella" feature while giving your investment the individual yet inexpensive stimulus that will lead to extra dividends for you and your company.

• Here is where the professional touch can really put the finesse on your films. Without proper scene editing, films lack "punch."

• And without professional sound editing, such as is done here, your film may be a pumpkin instead of a "Cinderella" feature.



An Evaluation of the Western Apprenticeship Conference

WESTERN Conference on Apprenticeship, held during the latter part of May in Seaside, Oregon, set the stage for the Second Annual Meeting of Labor, Management and Public Agency representatives interested in the progress of apprenticeship training in the West.

Ideas and thoughts which are engendered from these conferences have done much to increase effectiveness and the assistance of such training in all our Western States.

This conference, second undertaking of this type, afforded the opportunity of apprenticeship programs to present the experiences and practices which are being used each day in local apprenticeship programs. It did much toward further emphasizing the need of exchanging and comparing experiences in apprenticeship training more often.

However, as so often is the case, expectations of delegates attending such conferences as these, are not and cannot be fully realized.

Conference Benefits

There are numerous comments and a good deal of criticisms which could be made and which would speak in disfavor of a general conference. But the fact which must be kept in mind is that with all the shortcomings of such an undertaking of this magnitude, new information on apprenticeship training was gained by the delegates, and positive suggestions and useful material were carried back to their local apprenticeship groups.

Procedures used by both the Navy and Army in the training of apprenticeable personnel were given at one of the earlier panels in Training for Skills. Timely representation provided by these service speakers provided delegates with convincing assurance of just how the services will provide trained personnel in the event that this nation be faced with necessity of mobilizing its skilled manpower.

Another speaker, alluding to accomplishments of the Northwest, of those trades possessing apprentices, pointed up the need for certain additional and vitally needed apprenticeship programs in such trades as electro-metal-

lurgy and wood chemistry.

The panel on Safety Training brought forth further concrete suggestions and placed emphasis on the serious lack of and need for a definite safety program. It stressed establishment of minimum hours of safety education, both in the shops in which the apprentice is trained and in his related training class work.

A speaker in the general building construction panel brought forth the recommendation that apprenticeship training programs should be shortened as one means of encouraging more young men to enter the apprenticeship program. This produced a number of very valuable comments, both for and against the reduced program, and indicated a possible need for a new evaluation of time spent in training of all programs.

It was pointed out that, while some programs could not be reduced beyond their present training period, it was quite feasible to shorten others; and desirable from all aspects, especially where the program has a small enrollment.



ROBERT F. GIRARD

By **ROBERT F. GIRARD**
California Metal Trades Association

It was pointed out further by another speaker on this panel that a few trades consider the apprentice as being too old in years when he enters the trade.

A large number of the local JAC's failures and terminations are laid to the fact that the apprentice is carrying, in many cases, unmanageably large financial and family responsibilities. These factors tend to place him under continual stress, cause him to become impatient to become a journeyman, and disregard learning properly and thoroughly. This factor points up a possible exclusion of prospective apprentices who are married or who have unusually large financial burdens.

A very important point was brought forth for discussion by a speaker on the related technical training panel. This speaker stressed the value which trade schools can play in providing excellent sources for apprentice applicants, and that local JAC's are not utilizing this source to the extent they should.

More Efficient Training

A number of the speakers on this related technical panel gave excellent suggestions in the selection and in the programming of apprentices to their related training period of instruction, permitting more effective training.

From the metal trades panel, the need was suggested for fastening the responsibilities of apprenticeship training on the employers by indenturing the apprentice to the employers where possible rather than the JAC or the union. It was believed that this would tend to encourage greater employer participation.

One interesting disclosure was made during the panel on state apprenticeship councils, and the committee on apprenticeship. The principal speaker compared the amount of money which was being spent by the Federal and State governments for apprenticeship training among the various Western States. The difference in cost per apprentice among local governments varied by as much as four to one. It furnished vivid evidence that some states could well afford to increase the

amount of funds designated for training future skilled workers of their state.

This particular subject could have well afforded a panel of its own with a breakdown and comparison of what it cost to run an apprenticeship program.

These high points of speeches given at this conference provided considerable material for delegates to take back with them. There were, quite possibly, other points of interest which have been overlooked.

As praiseworthy an undertaking as the conference was, it is believed that there are many ways whereby a gathering for the purpose of talking apprenticeship training might be made more effective and more valuable to the people who attend.

A prime source of irritation which probably occurs at every general conference irrespective of its nature (and which was evident numerous times throughout this conference) was the inability of the people designated to speak to observe time and subject limitations.

Too often during the conference the speakers lost sight of the topic on which they were speaking in order to inject personal experiences, irrelevant material and destructive criticisms.

Extemporaneous remarks and comments too often were made which were not planned or thought out clearly and which contributed nothing to the immediate or the general subject.

Another valid criticism could be directed toward the programming of the topics of discussion and the all too frequent repetition of material. Such circumstance would conceivably be corrected by a more definite outline of a speaker's subjects for topics. By reiterating these topics to be covered immediately prior to the panel's presentation, by scheduling pre-panel meetings of the speakers, further clarity and conformity in subject presentation could be achieved.

A further objection was noted in the appearance of more speakers on the panels than there was time available to allow each a reasonable period to speak. This also precluded the possibility of those more prominent and experienced men to speak freely and completely on the topics assigned and preventing in many instances a longer participation period for discussion and questions from the audience.

A few topics, quite germane to the subject of apprenticeship, should have had a formal place on the program, but did not. Financing of apprentice-

ship training programs by labor and management is a vital problem to everyone concerned, for example. A more coordinated job of selling apprenticeship training to the public and our legislators provides a topic of discussion which must be developed in the near future.

It was rather amazing to find the number of impromptu substitute speakers appearing on the program who apparently had insufficient time to write and prepare their talks, and thereby were obliged to give impromptu talks of a general and personal nature and largely without any relation to the panel topic listed in the program.

Panels, in some instances, were not properly directed, and presented brief but sufficient opportunity for certain speakers and members of the audience to insert remarks which were uncalled for and undesirable.

If the conference had been able to produce more concrete and positive suggestions as to what the selected speakers believed would improve the apprenticeship training program in their particular locale and in others, it would have been more successful in achieving the purpose for which it was intended.

Selection of Apprentices As to Age and Aptitude

Girard tells how California Metal Trades Association does it

AGE LIMITS as set by the machinists, metal platers and polishers, ornamental iron standards and foundry apprenticeship standards, run from 16 to 26. Our committees credit veterans with time spent in military service, and subtract one year of age for every year of service, where the applicant is over the stipulated age limit.

Generally we prefer young men, high school graduates.

This is our selection policy:

1. The apprentice's previous related experience in the trade. This includes all previous jobs which he has held that have any connection with the trade, or which permitted him to work with his hands.

2. His previous education, which applies to his junior and senior high school work, and trade school classes. Under this factor we note in particular, the amount of shop work, mathematics, and mechanical drawing he has had.

3. What we call "physical characteristics." This actually takes into

consideration his physical stature and development, as well as his mental alertness and receptiveness as demonstrated in his replies to the Committee. His personal appearance is also scored.

4. "Special consideration factors." These credit the applicant who has had an unusual amount of related experience in the trade or education beyond what we would normally hope to find (such as college work, or more than the average amount of shop work, or special night courses taken in trade school, etc.).

Also included is the apprentice's hobbies and outside interests, if they indicate he uses this time to work with his hands. We also consider the fact that his father or brothers might work at the trade, or if there is a home workshop. These things all indicate a degree of interest in the trade that we feel is important.

On the basis of these qualifying factors, each of which is assigned

0 to 3 points, the applicant is scored. He can receive a maximum of 12 points; he fails to be approved if he receives a score of less than 6.

These, of course, are arbitrary points. Any system of scoring would work. Similarly, we have set up for our purposes, what should constitute the average for each factor.

For example, under "Previous Education," an applicant who has completed high school, has had the normal amount of math and mechanical drawing, and has had two years of shop work in high school is given 3 points under this factor.

Each trade can set its own average of acceptability and form, dependent upon the type of young men entering the trade, the opportunities that have been available to them in the area, the number of apprenticeable openings available throughout the year, and the general feeling of the Joint Apprenticeship Committee regarding the qualifications which the entering apprentice should possess.



• Small punch press department at Marchant Calculating Machine Co., Oakland, Calif. Machine loads are an important part of their production control records.

Machine Load Efficiency:

How much of it is there in your plant?

THIS installment of *Western Industry's* comparative survey of management and operating practices deals with the question of "machine efficiency." Realizing that a production machine can have various types of efficiencies, the survey was specifically analyzed from the standpoint of "machine load" efficiency.

In any well organized manufacturing plant, the production machinery is analyzed in relation to the scheduled work to be done by each piece of equipment in order to arrive at a "machine load" efficiency. This, of course, can be

done for each individual machine as well as for whole departments.

Establishing a "machine load" efficiency requires intelligent planning of the production load, which is usually done by the Production Control Department. In this planning it is very important that the time elements required for each operation are known and established on records, or more commonly, on routing sheets.

In addition to the actual operating time of the machine to do a certain production job, it is of course also necessary to establish a "setup time"

which is required for each specific operation. This time must be included in the computations to arrive at a machine loading.

Required interruptions of machine operation, as for instance for necessary oiling, checks of adjustments and others which are not part of the operational time as established on the routing sheet and yet are of a repetitious and necessary nature, must also be included.

Many systems have been used to establish machine loading. Most of them are using the graphical presentation. There are commercially available "machine loading boards" which use the peg method; there are other systems commercially available which use the index cards system. These methods are efficient and recommendable.

Many companies use the well known Gantt Chart for an accurate graphical means to establish machine load efficiencies. These Gantt Charts are an easily workable and economical means of giving the Production Control Department an exact picture of the work load for each machine or for each department, and readily reflect the relationship between the machine load and the actual available time.

Punch cards and tabulating machines are also used in accumulating machine loads.

The productivity of the machines or departments as related to the machine load, during a specific period of time, can be accurately analyzed by a computation of the theoretically required hours versus the hours actually used on a daily, weekly or monthly basis.

This *Western Industry* survey shows that the importance of knowing the "machine load" efficiencies in the plant is not too well recognized. A good and sound knowledge of machine loads is of great importance in any manufacturing plant since it will eliminate costly delays by too large a workload on a piece of equipment, and on the other hand call attention to equipment which is not fully utilized and requires attention for possible redistribution of the work-load.

See page 48 for more data

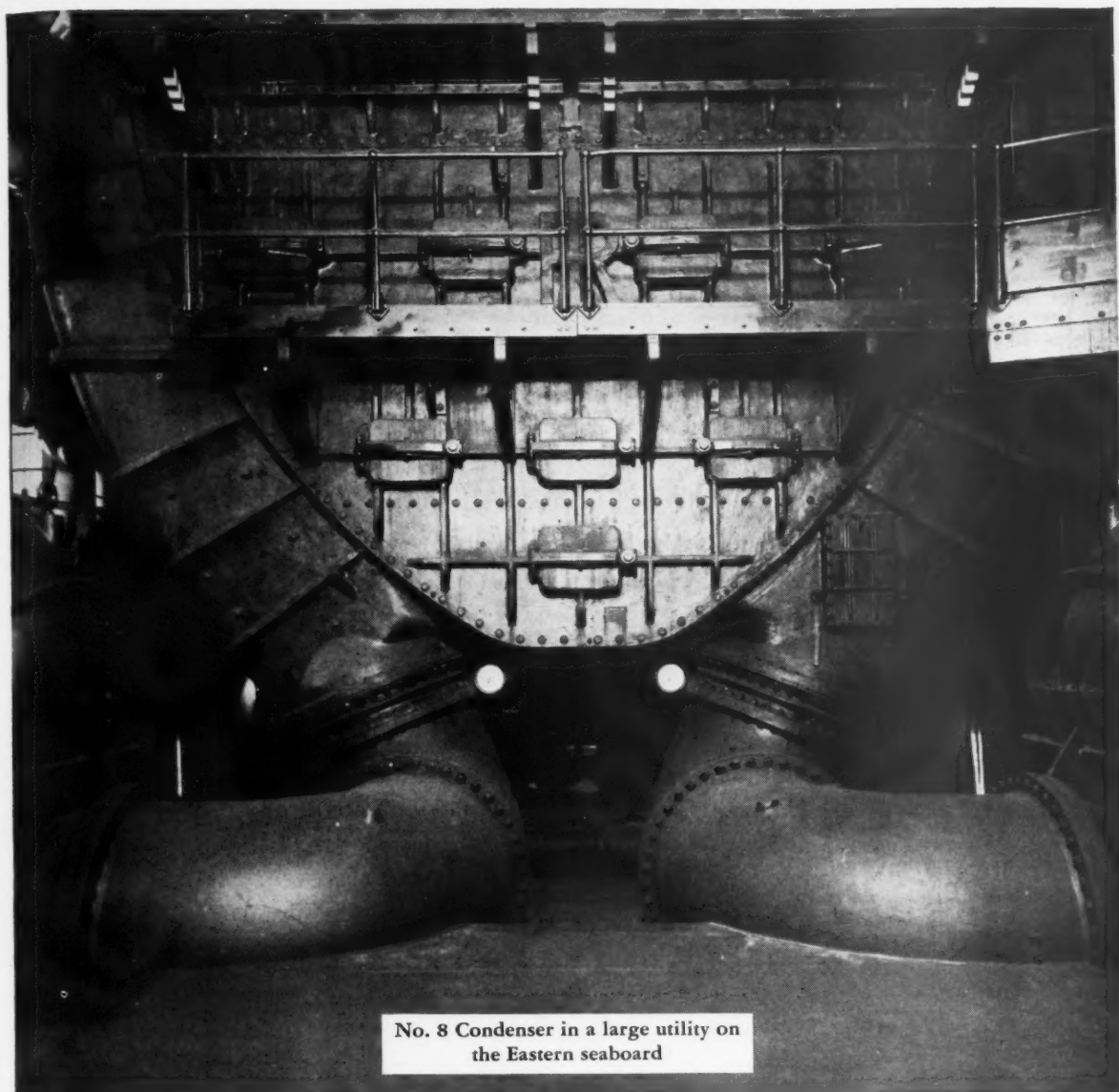
THIS is the fifth installment of *Western Industry's* survey, carried in cooperation with eight universities in the West and a number of management consultants, to assemble facts concerning actual operating conditions in industry in the West. (Detailed report on page 48.)

Reports were obtained from 211 plants in California, Oregon, Washington, Idaho, Utah and Colorado through a detailed questionnaire, covering division of functions, organization charts, communications, manufacturing programs, controls and budgets.

In order to determine the comparative efficiency of industry in the West and the older industrial areas of

the country, the reporting plants were designated as "Western Methods," "Eastern Methods" and "Mixed Methods," to indicate whether their systems were developed in the West, whether they operated under programs emanating from Eastern home offices, or were a mixture.

In view of the fact that the survey indicates the Western plants to be considerably behind the East, plans for studies with a view to improving Western efficiency are being made by the Society for the Advancement of Management, American Society of Mechanical Engineers and the Society of Industrial Engineers.



No. 8 Condenser in a large utility on the Eastern seaboard

don't let **FOULING**

get your figures **ALL FOULED UP!**

● One important factor taken into account when figuring on the heat-transfer capacity of a condenser is fouling. But the effect of the tube alloy on both rate and amount of fouling is sometimes ignored in design calculations. The acceptance test of a condenser is made with clean tubes. However, the average heat transfer rate varies with time, and fouling is the chief factor in such variation. In many applications this indicates the need for serious consideration of cupro-nickel tubes, which are recognized to have superior anti-fouling characteristics, as well as high resistance to corrosion, erosion, impingement. Thus it can be said that cupro-nickel, 30%, will provide more uniform transfer rates over a period of time, require cleaning much less often, and last longer . . . Revere makes condenser tubes in

cupro-nickel as well as in all the other customary copper alloys. We will gladly collaborate with you in a study of the economics of condenser tube selection to meet your needs for true economy. Write for reprint of article entitled "What Factors Should You Consider in Selecting Condenser-Tube Alloys?"

REVERE

COPPER AND BRASS INCORPORATED

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Here is the scoring of 211 Western plants in regard to machine efficiencies in Western Industry's survey of methods and systems

Designations "Western," "Eastern" and "Mixed" indicate whether methods and systems were independently developed in the West, or formulated by eastern management or parent company, or are a combination of both. Numbers indicate number of plants.

Do you know what your machine efficiencies are? 172 say Yes; 67 say No.

Southern California			Northern California			Western Washington			Eastern Washington		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	23	7	Western Methods....	10	13	Western Methods....	39	29	Western Methods....	2	2
Eastern Methods	5	2	Eastern Methods	2	1	Eastern Methods	6	2	Mixed Methods	1	1
Mixed Methods	2	1				Mixed Methods	2	...			

Utah			Oregon			Idaho			Colorado		
	Yes	No		Yes	No		Yes	No		Yes	No
	13	4	Western Methods....	20	4	Western Methods....	4	...	Western Methods....	5	1
			Mixed Methods	2	...						

Do you know what they should be? 141 say they know; 58 admit they don't

Southern California			Northern California			Western Washington			Eastern Washington		
	Yes	No		Yes	No		Yes	No		Yes	No
Western Methods....	19	8	Western Methods....	14	9	Western Methods....	40	23	Western Methods....	2	1
Eastern Methods	5	2	Eastern Methods	2	1	Eastern Methods	9	2	Mixed Methods	1	1
Mixed Methods	2	1				Mixed Methods	4	...			

Utah			Oregon			Idaho			Colorado		
	Yes	No		Yes	No		Yes	No		Yes	No
	13	4	Western Methods....	19	5	Western Methods....	4	...	Western Methods....	5	1
			Mixed Methods	2	...						

What do you believe is the best way to get and utilize this information? A variety of answers were received. Here they are: Take your pick and see if any are helpful to you

Southern California		Oregon		Western Washington		Eastern Washington	
<i>Western Methods</i>		<i>Western Methods</i>		<i>Through own testing.....</i>		<i>Not too important, depends on workers.....</i>	
Through Supervisors and Clock Operations.		Estimate Based on Past Performances		Manufacturing ratings and production schedules		<i>Mixed Methods</i>	
Time Each Run and Check Studies.		Engineer Department Test Methods		Foreman and President.....		Time studies and records....	
Keep Close Watch.		Time and Motion Study....		By experience and comparison		Production records	
Speed and Feed Standards 2		Standards Rating		From manufacturers of machines—not easily usable		Ratio methods, check progress	
Individual Unit Studies.		Close Supervision of Workers		Job cost sheet made out for each job.....		<i>Eastern Washington</i>	
Study and Action Based on Study.		Comparison of Production Reports		Manufacture own test.....		<i>Western Methods</i>	
Compare to Standard.		Compare with other plants		I. E. and time studies.....		Costs don't justify results..	
Accurate, Up-to-date Production Standards.		Est. cost and tracing trouble records, cash runs		Manufacturers of machine—cost file		<i>Idaho</i>	
Obtain from Standard Time Data.		<i>Mixed Methods</i>		Production records		<i>Western Methods</i>	
Analysis by I. E. Department.		Production charts and meeting of department heads		Through time studies.....		New tooling ideas.....	
Daily Reports.		Used incentive plans in full production		Check actual runs, over-all and short time.....		<i>Utah</i>	
Set Up Individual Department Objectives.		<i>Western Washington</i>		Not interested		Own experience	
Time Studies.		<i>Western Methods</i>		4-hr. checks under actual and synthetic conditions		Industry experience	
<i>Eastern Methods</i>		Time studies and manufacturers information.....		Through engineer'g studies		Time studies	
Studies are made.		Actual time studies.....		Constant surveillance by superintendent		Books and tests.....	
Studies of parts and machines.		Manufacturers		By and for executive staff..		Personal examination	
<i>Mixed Methods</i>		Obtaining better help.....		Time study for standards, standard cost and oper. system		Research studies	
Est. time study standards.		Find out ourselves for own purposes		<i>Eastern Methods</i>		Parent company	
Through I. E.		From experience.....		To increase efficiency.....		Weekly production reports	
Through Trial and Error.		Efficiency experts		Get original data from manufacturers and then use to advantage.....		<i>Colorado</i>	
<i>Northern California</i>		Production records		Constant inspection		<i>Western Methods</i>	
<i>Western Methods</i>		Machines are limited by repeat process		Weekly reports on efficiency costs and actual costs		Time studies	
Time Study and Daily Reports				From manufacturers and experience with equip.....		Uniform production rate....	
I. E. Study.....						Compare estimates of ultimate performance	
Supervision							
<i>Eastern Methods</i>							
Time Study							
Not Applicable							

Better piping for every job ...from one complete line...CRANE

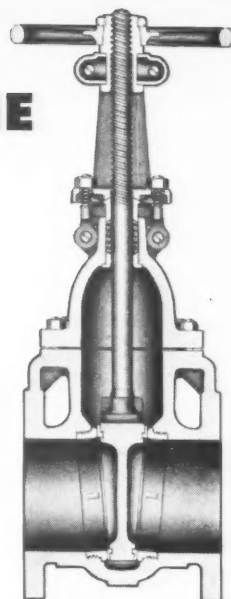
BUILT STRONGER TO LAST LONGER

That's one reason Crane 125-Pound Iron Body Wedge Gates find such wide application. Improved elliptical body design with uniform wall thickness eliminates useless weight; provides high resistance to pressure loads. Tie-ribs between end and bonnet flanges increase resistance to line strains.

Check these other Crane design features. Greater flow capacity: straight-through ports assure streamline flow. Minimum maintenance: long disc guides reduce disc drag and wear on seating surfaces. Deep stuffing box—more packing—lengthens packing life. Easy operation: uniform pressure on packing eliminates stem binding. Flexible T-head disc-stem connection prevents side strain on stem.

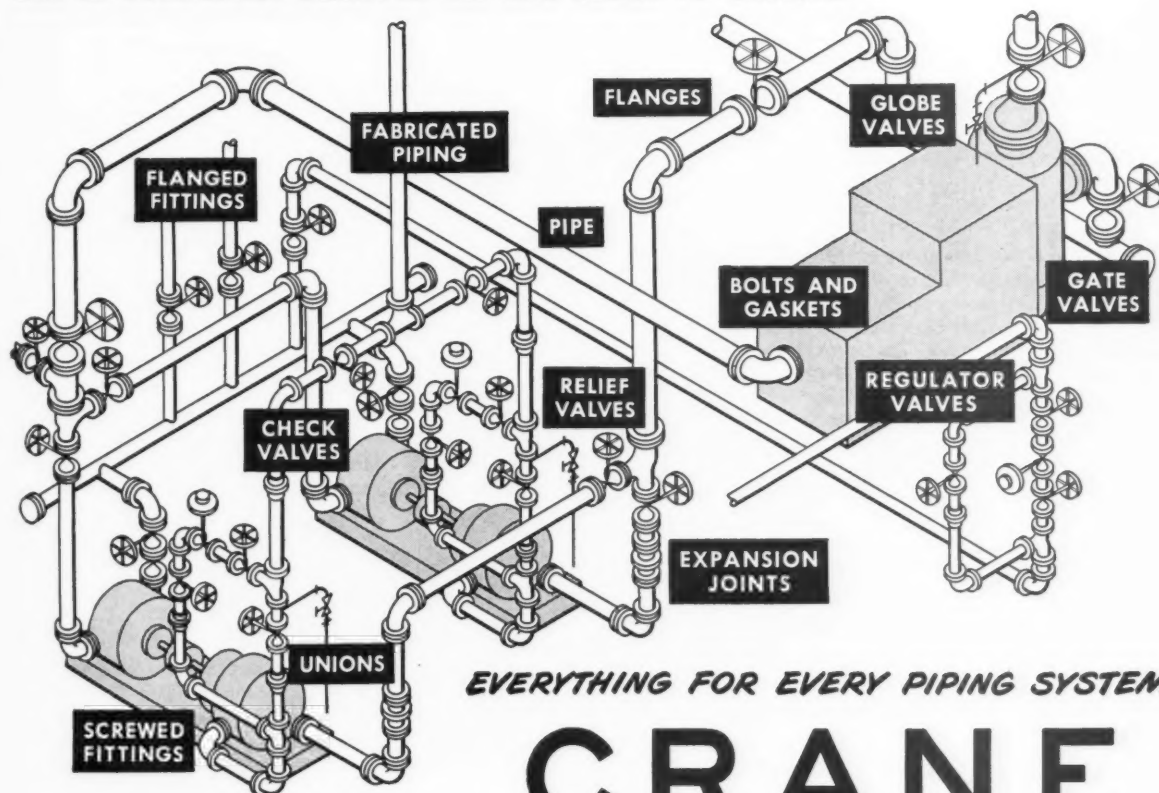
Available in patterns for every need; non-rising stem, O. S. & Y., Quick-Opening and Underwriters'. Flanged or screwed ends. See your No. 49 Crane Catalog.

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No. 465 1/2, Flanged Gate
Working Pressures: up to
125 pounds steam; 200
pounds water, oil, gas.
Sizes: 2 to 48-inch.

**THIS BOILER FEED SYSTEM, FOR EXAMPLE,
CAN BE COMPLETELY EQUIPPED ON ONE ORDER TO CRANE**



EVERYTHING FOR EVERY PIPING SYSTEM

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VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

TECHNICAL SHORTS

The Better They Smell The More They Sell

Products, that is. Industry's effort to make some of its products smell better—and incidentally, sell better—has made new progress. Du Pont Company now has available in commercial quantities, a new series of odorants for rubber and related products.

They'll give a wide range of sulfurous, smoky-smelling rubber products the scent of mountain air after a summer shower, say the Du Pont people.

These odorants are available for natural and synthetic rubber. The company is making a series of them under the trade-mark "Alamask." They may be employed singly or in combination, and in concentrations from 1/10 to 1/100 of 1%, added during the manufacturing process.

New Heating Application Cuts 24 Hours to 2 Minutes

Electric heat, combined with a waterproof thermosetting resin glue that can be set in two minutes, replaces an air-drying process that used to require 24 hours in the press at J. W. Koehl & Son, Inc., 652 S. Myers St., Los Angeles, door manufacturers.

By the old method, most of the moisture of the cold-setting casein glue was left entrapped in the wood, which tended to cause the doors to warp after removal from the press. This new process, developed by Los Angeles Department of Water and Power heating engineers, has eliminated the warping condition.

Heating elements composed of sheets of stainless steel are placed in direct contact with the glued-up door panels. Low voltage, high amperage, 60 cycle energy is applied to the steel sheets, which quickly come up to a uniform temperature of 300°F.

This sets the resin glue by polymerization in approximately ten minutes, at an energy cost of about 2¢ per door at prevailing utility rates.

With very little additional expenditure, this type of thin, flexible, stainless steel heating element can be applied to almost any size and shape of face or banding veneer operation on most types of presses.

Headwork Conquers Bulkhead Problem

One of the many problems encountered at San Francisco Port of Embarkation was: How to improve bulkheads for rail cars carrying less than capacity loads between piers and warehouses.

Customary procedure was to construct two bulkheads for each car, after that car had been partially unloaded and diverted to the piers. These bulkheads were constructed so that the remaining cargo would not be damaged while in transit.

Eight 2 x 6's nine feet long were bulkhead crosspieces; three 2 x 6's six and one-half feet long became up-rights; 96 16d common nails held them together and in place. This lumber could not be removed without 75% to 80% damage.

As a result of the Employee Suggestions and Awards Program, one of the workers offered a happy solution.

Now the bulkhead consists of two standard 4' x 6' pallet boards, two 2 x 6's nine feet long, and four 16d common nails to hold the crosspieces in position and prevent the pallet boards from shifting. Ends and center of the bulkhead are braced against the car walls and floor the same as before. And the four nails used in crosspieces can be removed easily and with no damage.

Here's the graphic results expressed in savings per year:

Total man-hours saved.....	565
Lumber and nails saved.....	\$6,935
Salaries to civilian personnel.....	1,130
Total monetary savings in one year.....	\$8,065

Improved Techniques On Overhead Trolley Cleaning

Single-track overhead rail systems for handling materials such as meat, bags of goods, etc., operate with trolleys that accumulate deposits of foreign matter. This foreign matter (1) will contaminate the hooks and spoil meat carried, and (2) foul up the trolley rollers to a point where they are harder to move, resulting in increased power costs.

They must therefore be kept clean, but the methods in general use have

been exceedingly bothersome. Hand-scraping, brushing, or tumbling has been the general formula.

Now, however, according to the Oakite News Service, recent advances in cleaning and derusting procedures have brought about more efficient techniques which not only reduce trolley cleaning costs but improve results as well.

The batch-cleaning method, periodically performed, makes it possible for one man to clean and derust as many as 500 trolleys per hour.

This system makes use of one wooden tank and four steel tanks containing specialized cleaning and derusting materials, rinse water, and edible paraffin oil. The acid-holding wooden tank should be equipped with an over-flow line to the sewer. Steel tanks may be provided with angle-iron dams for oil-skimming purposes. A pneumatic electric hoist is used for moving batches of trolleys through the cleaning cycle, with a load of 150 to 175 trolleys treated at a time.

Working Men Have Working Ideas

Employees actually working on a job are in a position to offer suggestions which would otherwise be overlooked by top management. San Francisco Port of Embarkation management has found that savings gained by adopting an employee's suggestions are substantial in many instances.

For example, there arose a problem of developing an adapter for use in timing Diesel engines, and the Employee Suggestions and Awards Program brought out the answer.

Prior to adoption of the timing adapter now being used, at least two men were required to time one engine. The jacking bar that was used did not permit the crankshaft to be turned through the small number of degrees necessary to time the engine properly. In addition, the jacking bar often fell and bruised the shoulder of the man assigned to turn the crankshaft.

The adapter now used is constructed of 1½" hex stock and 7/16" round stock, and permits the use of standard box and socket wrenches in turning the crankshaft of an engine as little as 30 minutes.

The adapter requires the time of only one man for the timing operation. And the use of this adapter eliminates the possibility of a wrench striking the mechanic who is working.

As a direct result, man-hours saved proved to be 600 per year, at a saving of approximately \$1,500.

New Materials Handling Group

LOS ANGELES chapter of American Materials Handling Society was organized during the last week of May.

Prime sponsor of this movement was Robert H. Braun, of Robert H. Braun Co., distributors of materials handling equipment and Southern California representatives of Clark Tractor division of Clark Equipment Co. Through Braun's efforts, an organizing committee was formed and invitations were sent to a list of men in Los Angeles county who are involved in some way with materials handling.

Most of the persons who attended this first meeting are users of equipment, distinguished from distributors.

James H. W. Conklin, national president of Materials Handling Institute and sales manager of Clark Equipment Co.'s Industrial Truck division, gave a short talk on Materials Handling Institute and the organization of the American Materials Handling Society.

The next meeting will be held sometime this month or next month, at which time permanent officers will be elected. Thereafter, meetings will probably be held on a monthly basis.

American Materials Handling Society is an organization with chapters in many eastern cities. Membership consists of individuals who vend or use such equipment. Chapter dues (\$10 per year) include a free subscription to *Modern Materials Handling*, the official organ for news of the society and its members.

Temporary committee chairmen on the organizing committee for this new Los Angeles chapter are:

Membership Committee: Prof. Samuel Rubin, University of Southern California.

By-Laws Committee: Graham Whitehurst, Zellerbach Paper Co., Operations Mgr.

Nominating Committee: S. G. Lindley, Bechtel Corporation.

Program Committee: Robert Sheehan, General Motors Corp., Southgate plant.

Secretary-Treasurer: Robert H. Braun, Robert H. Braun Company.

Executive Committee (temporary basis) includes the above named men and E. S. Clardy, Frederick C. Hoff, Wm. Montgomery.

Robert Thomas, warehouse superintendent for Certified Grocers, was temporary chairman of this first meeting.



"A penny saved is two pence clear."

—Ben Franklin's "Necessary Hints," 1736

In days when venture capital comes not forth, cutting costs in thy shop plows money back into thy business.

—Acme Steel's Notebook, 1950

Mr. Plant Manager: You know that new machines, new methods can help you cut costs on the production line.

But are you overlooking opportunities to save in your shipping room, in your packaging and materials handling operations?

Most companies can find plenty of new ways to more efficiency and greater thrift, when an Acme sales engineer suggests them. In 9 out of 10 cases, we can help you benefit with Acme Methods and Acme flat steel strapping, Acme stitching machines and wire, and other Acme steel products.

More than 50,000 Acme customers now enjoy these benefits. Why don't you? It won't take long to find out. Just pick up your phone and call the Acme Steel service office nearest you. (There are 46 of these offices in the principal cities of the U.S. and Canada.) Or send the coupon for detailed case studies of savings in your own particular field.

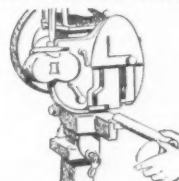
For offices and factories as well as homes, choose Venetian blinds made of ACME GALVA-BOND steel.



Take a tip from the women of America. In Venetian blinds, they choose steel for smarter style...steel for longer life...steel for easier cleaning. They choose blinds of Acme Galva-Bond Steel for lasting beauty. Isn't that a good lead to follow in your offices and plants? Look for the Acme Galva-Bond seal on the Venetian blinds you buy from your local dealer.

ACME STEEL

Stop at Riverdale, Illinois, next time you're in or near Chicago, and see our giant rolling mills. We start with a steel billet about the size of a 20-foot 2x4, heat it white-hot, roll it into a ribbon of steel $\frac{1}{2}$ of a mile long.



Cuts fastening operation costs

Savings of 91 per cent in materials! Savings of 38 per cent in labor! Product quality improved! That's what happened when a spraygun manufacturer put an Acme-Morrison Metal Stitcher on his assembly line to fasten metal to wood.

ATTACH THIS COUPON TO YOUR BUSINESS LETTERHEAD

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We manufacture

Please send me booklets on Acme Methods checked.

☐ Please have sales engineer call.

☐ **Shipping (Carload and L.C.L.)**—"Acme Unit-Load"—The story of reduced damage claims and better handling for shippers.

☐ **Packaging, Shipping, Materials Handling**—"Savings in Shipping" tells how to save money and safeguard customer good will with Acme Steelstrap.

☐ **Bag and Box Assembly**—"Profit by Stitching" demonstrates cost-cutting Acme Silverstitchers and Acme-Champion Stitchers.

☐ **Product Assembly**—"Acme-Morrison Metal Stitchers"—for savings in fastening metal-to-metal or metal-to-other materials.

☐ **Book Assembly**—"Acme-Morrison Book Stitchers" for savings in the graphic arts field.

NAME

POSITION

COMPANY

STREET

CITY

ZONE

STATE

Soft Water:

The Answer to Some Hard Plant Problems

C. Plant Processing

1. *Plating Solutions:* Zero soft water is recommended for all plating baths. It is absolutely essential to efficient operation of several types of plating

solutions. The extra cost of the chemicals required to operate in hard water combined with a more rigid laboratory control expense, is costing many plants unnecessary dollars for the production

of resulting inferior work. Chrome plating is especially benefited with the use of zero soft water. The intermediate and subsequent water rinse tanks play an important part in surface preparation and appearance and should be operated with soft water. (Ref. 1.)

THE first installment of this article, appearing on page 48 of the June issue, discussed chemical differences between hard and soft waters, and told what industry can expect from each. It also told how minerals in hard water are removed and soft water is produced. Then started a list of industrial applications, continued.

2. *Anodize Solutions:* At the present time it is not difficult to show how the hydrogen ions are affected in contact with hard water sulfates, chlorides, and carbonates, which are eliminated in the demineralizer softener. These anions grapple with the hydrogen ion concentration, thus requiring hundreds of extra pounds of chromic acid flakes to do an equivalent job with the use of hard water. Government specification controls the concentration of these hydrogen ions, which must be maintained at a certain strength to provide proper corrosion resistance in the anodic film. Thus, less chemical will be required to charge the tank originally and less chemical will be required to maintain its concentration. Depending on initial water hardness in different areas, savings on this critical chemical alone could easily be in excess of 50 per cent. Chromodizing solutions react in the same manner as anodizing.

3. *Sodium Carbonate Quench Tank:* Three facts must be faced in this regard: (a) the water will become quite alkaline when parts from the salt baths are quenched in it; (b) the water must be changed constantly when parts are quenched, or the boiling point will be reached with a resultant scattering of steam and hot water over a wide area; (c) as long as the water in the tank is hard and contains harmful minerals, they will precipitate and deposit in the drain lines.

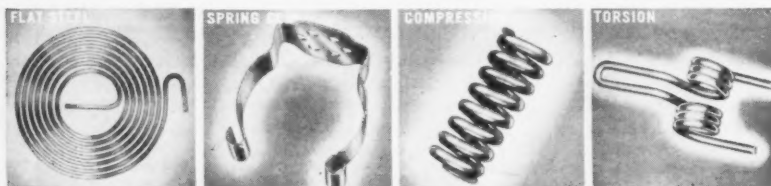
1. "Summary of Anticipated Advantages to Be Gained by the Use of Ion Exchange or Demineralization of City Water for Certain Shop Processes," K. R. Whitcomb, Ryan Laboratories Report No. G-30.47, 1944.



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It will be a matter of months before any damage is done, but the drain lines will plug up again and again. The last time this happened at the Ryan Aeronautical Company's plant in San Diego, a \$1,700 repair bill and a three-week shutdown resulted. Soft water would have served as a preventive measure there if the installation had been made prior to this occurrence. (Ref. 1.)

4. Alkaline Cleaner Tanks: In this chemical cleaner operation, saving on cleaning compounds will pay for the upkeep of the entire water softening installation and equipment. In some larger plants the savings alone will pay for the cost of the water softener in a few months time. Out of every hundred pounds of alkaline cleaner placed in a tank, a good number of pounds are lost or used up by the hard water minerals that are present before the solution is even used. Since the tank operates at a relatively high temperature, evaporation is high, and the hard water mineral concentration of the tank solution rises at an appreciable rate. Use of zero soft water will result in savings in two ways. First, a cheaper cleaner can be used, because commercial cleaners containing water softening agents cost much more than those that do not. Secondly, there will be less cleaning compound used since the hard water minerals will not be present to use up a great deal of the chemical cleaner added. (Ref. 1.)

Many soaps settle to the bottom of the tank, being outweighed by the heavier hard water minerals, a large part of which form insoluble compounds. The soap or alkaline cleaner then requires agitation in the form of compressed air or pressurized water agitation to maintain operating efficiency. This is another form of added expense that pours dollars down the drain.

With soft water, the tank solution remains clear of these insoluble compounds and damaging solutions.

5. Water Rinse Tanks: Rinse tanks preceding or following other chemically charged tanks suffer from the presence of ordinary hard water minerals. These minerals can be observed at a water temperature of 180°F. as calcium salts which come out of solution as solid compounds and float around as visible flakes. These lime deposits form on a cleaned surface and defeat the purpose of proper rinsing. These effects may be especially noted in rinsing prior to spot welding operations in which the insulating effects of the micro lime deposits may effect welding electronic settings. These de-



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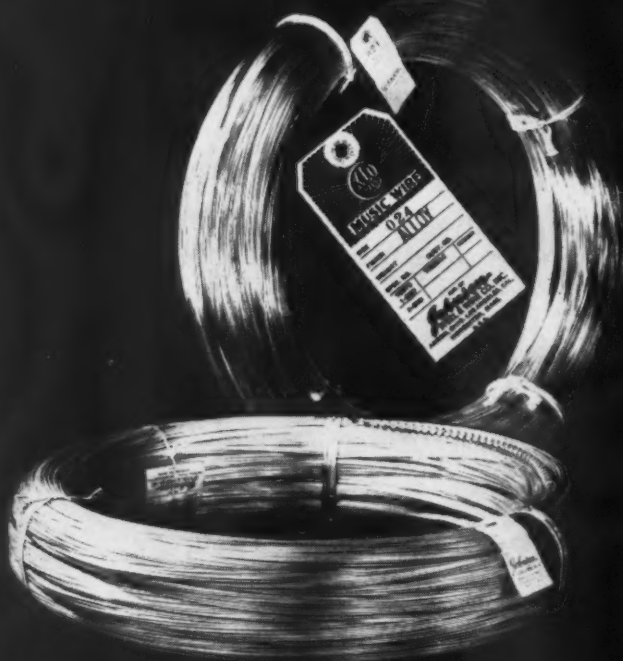
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NOW, all Johnson XLO Music Spring Wire is made from imported, improved Swedish rod. Johnson researchers plus the resources of Swedish steel-makers have developed an electric furnace steel, with closely controlled analysis, which is being used exclusively in Johnson Music Spring Wire. The result—more uniformity and added fatigue.

This quality advance is in line with the Johnson policy of giving something better whenever possible.

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posits may also adversely affect paint coating adherence since the mineral concentration will build up with daily evaporation of water from the tanks. Zero soft water has the affinity for detrimental deposits and will not only thoroughly rinse an object but will chemically absorb scale previously formed. Savings here can be measured in production time, production efficiency and production quality. The ordinary heat required to rinse alkaline cleaners may not be required with soft water because soft water works equally as well with soap in cold water.

6. Electrolytic Cleaner Tanks: Chemical concentration is affected in the same way as the alkaline cleaner tanks. Savings in chemicals as well as cleaning power will be increased, saving time in operation, which in turn saves electrical current, etc. (Ref. 2.)

7. Caustic Tanks: Caustic soda and soda ash are the cheapest and most direct means of producing alkalinity in the bath. However, as a general rule such materials possess less surface activity than materials of more complex chemical structure. Caustic soda (Na OH) doubles up with the sodium released by zeolite in the water softener and therefore an even greater saving in the caustic soda and subsequent additions would be realized.

8. Acid Tanks: The hydrogen ion is adversely affected in combination with hard water salts and requires more acid to do a given job. Result is that costs for additional acids rise rapidly. As water evaporates, the salts such as CO_3 , SO_4 , HCO_3 , and Cl tend to break down the H^+ ion to an expensive operation. When demineralized water is used, these anions are eliminated, with better pickling and stripping and longer operating life possible.

9. Water Soluble Cutting Oils: Water soluble cutting oils vary in dilutions from specifications of 8:1 to 30:1 and higher. (Ref. 7.) Better cooling and less contamination will result with the use of soft water as the diluent. Skin diseases will be reduced to a minimum. Surface finish may be highly improved by offsetting the usual limestone friction in the water. Tool life should be measurably increased with the use of soft water also. The difference in hard water and soft water action is compared to the addition of a wetting agent in the feel to the hands. This situation is magnified many times in doing work requiring fast heat transfer in automatic and other machinery. In many cases a slightly

2. American Society for Metals Handbook, page 891, 1948 Edition.

7. Machinery's Handbook, E. Oberg, F. D. Jones, Tenth Edition, 1941, page 1106, soluble oils.

higher temperature and inefficient cooling may spoil surface finish and the entire job itself. (Ref. 6.)

10. *Miscellaneous*: Water to be used in dyeing should be free of iron and be soft in order to avoid the formation of insoluble lakes, which give impure shades and often spot the fabric. Wool and cotton mills require soft water in order that undue amounts of soap will not be wasted in washing the yarn.

Photography

Salts of calcium and magnesium are undesirable in photographic processing, as both negatives are dried after rinsing; these salts are sparingly soluble and likely to form smudges and spots on negatives and prints. In addition there is a likelihood of formation of sludges on processing equipment. Iron is also undesirable, as spots are likely to be formed on negatives and prints if iron is present.

Most of the water used in photographic developing is used in the final rinsing of negatives and prints. As this is the rinse which immediately precedes drying, it is important that the water used in this rinse be free from turbidity, color, hardness and iron. Zeolite softened water is recommended for this purpose.

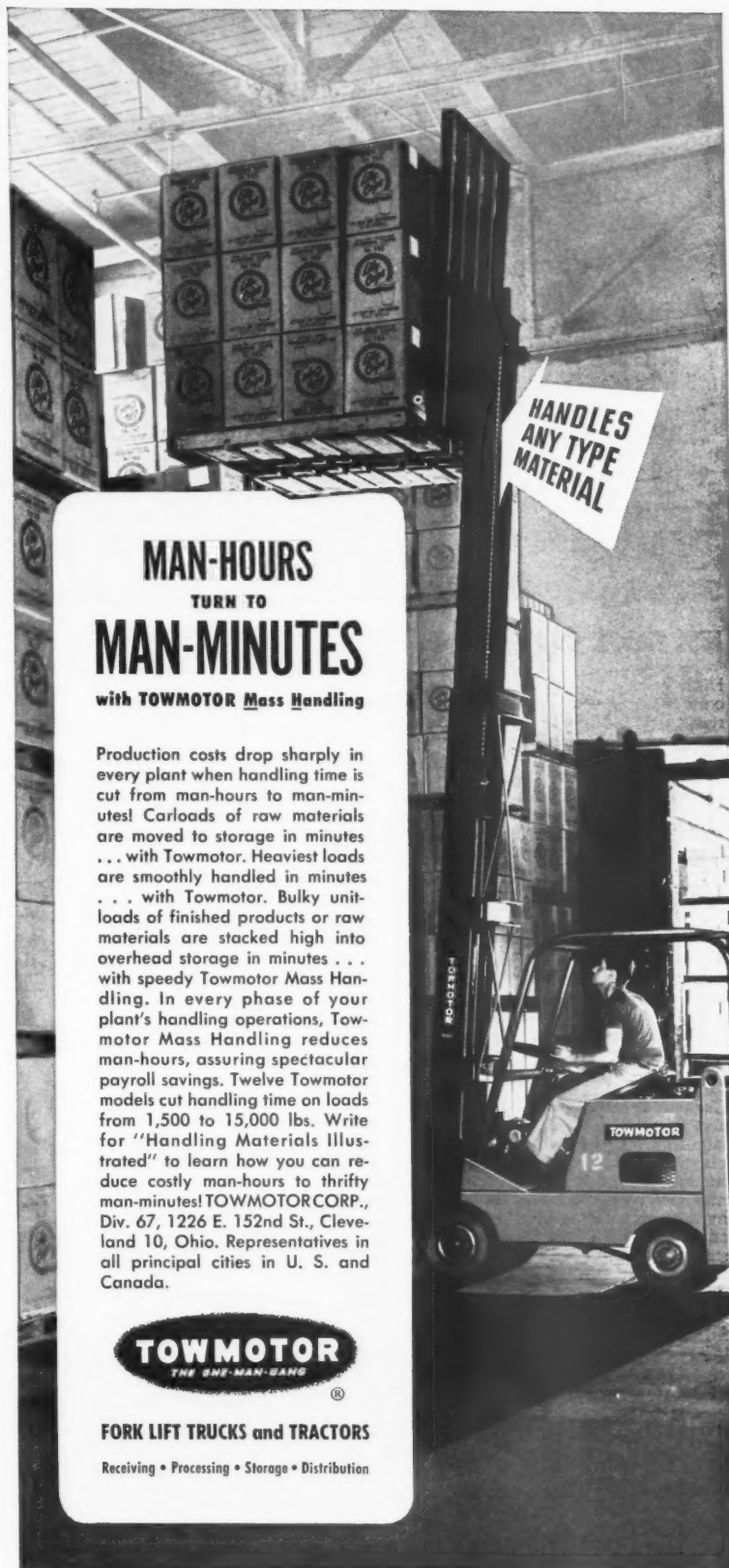
Zeolite softened water is not recommended for use in the manufacture of the acid rinse and fixing bath as the slight alkalinity present will undoubtedly cause interference. As the fixing bath becomes alkaline, a white sludge forms and negatives and prints are likely to become stained and improperly washed. It is important that the fixing bath is discarded before it becomes alkaline. Demineralized water may be beneficially used here for black and white reproductions.

Ice Manufacturing

Zeolite softened water is not an improvement over the hard water supply for manufacturing ice. Demineralized water provides a suitable and desirable water by the removal of objectionable compounds such as bicarbonates and carbonates of sodium, calcium, magnesium. Iron compounds and calcium or magnesium carbonate may be removed by lime softening.

Mirror Silvering

Water to be used for making up mirror silvering solutions should be free from dissolved solids and turbidity. Chlorides are not removed by Zeolite softening and demineralized



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6. Industrial Chemistry, Emil R. Riegel, Ph.D., 1942, page 240-242.

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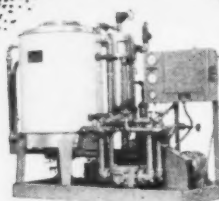
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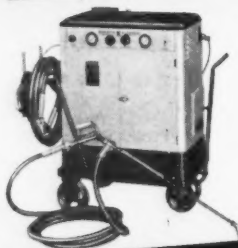
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Clayton Forced Circulation Steam Generators and Water Heaters are widely used by dairies, laundries, hospitals, canning and packing plants, textile processors, cleaners, tanners, lumber mills; others. Because of their compactness and high efficiency, thousands were used by the Navy during World War II, ashore and afloat. Kerrick Steam Kleaners are the accepted standard equipment wherever fast, thorough and low cost steam cleaning is required. Mail this coupon to learn how Clayton engineered equipment can help your operations; cut costs, save time, make profit.



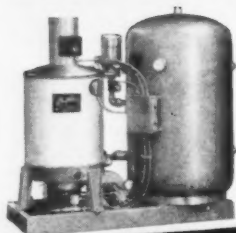
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or de-ionized water is required. (Ref. 9.)

Bakeries

Soft water promotes faster yeast growth. The use of demineralized water and zeolite softened water is still in the experimental stage. Obviously the use of softened water in cleaning is extremely desirable.

Public or Private Swimming Pools

Diatomaceous earth type filters are best for removal of foreign matter from water but do not remove the harmful calcium and magnesium compounds which encourage bacteria and the spreading of many diseases. State laws provide for ample filtering facilities costing swimming pool operators many times over what zeolite softeners are selling for to do an equivalent job, but do not stop the insoluble compounds from forming on the skin which are a combination of palm oils or skin oils and calcium, magnesium, and other salts wherein bacteria and other microorganisms are picked up and harbored and multiplied. Zeolite softened water is recommended for pools since the sodium exchange for calcium may provide some buoyancy and in combination with filtering would maintain dirt and disease free conditions.

Rug Cleaning Plants

It is important that water used in cleaning rugs be zero soft and free from iron, manganese, and hydrogen sulfide and be neutral or alkaline. Softened water will prevent disposition of soap curd and assure excellent cleaning. If water contains iron, manganese, or hydrogen sulfide, white rugs and fringes of rugs are likely to be stained. Thus it is absolutely necessary that these minerals be removed before the water is used for cleaning rugs. It is desirable to locate the softener as near to the point of use as possible, as undesirable substances may be picked up if the water travels through lengthy piping or is stored in unprotected containers before use in rug cleaning.

Bottling Plants

Zeolite softened water should be used for soaking, washing, and rinsing bottles. Demineralized water should be used in the beverage since it will not neutralize the carefully adjusted acid content of the beverage syrup. Even though a lime softener is used, a zeolite softener should be further used to soften the water for washing purposes.

9. Culligan Manual unpublished.

(Concluded next month)

\$25,000 Saved By Standardizing Simple Parts

SAVINGS in excess of an estimated \$25,000 by the standardization of casters on movable work stands and equipment carts have been reported by Lockheed Aircraft Corporation, Burbank, Calif.

While inventory items as commonplace as castered wheels might be considered unimportant, the plant engineering department effected this reduction of maintenance costs and manufacturing delays by standardizing on eight types of casters instead of the 104 varied kinds and sizes previously used.

In service are over 8,000 pieces of movable equipment, totaling over 30,000 casters. Before standardization it was often found that one of the wheels of a work stand would deteriorate, and that replacement was impossible in many instances.

To meet its caster requirements, Lockheed purchased the Aerol Caster Corporation as a subsidiary, and concentrated on the production of eight light-weight but rugged casters.



The story: before, left; after, right.*

All casters now used embody a sturdy king pin, rotating roller bearings, and are equipped with rubber tires that are impervious to oil and other enemies. The casters all have identical base-plate bolt spacing; they are all interchangeable.

Roller bearings and rubber tires are essential to carts and stands in these manufacturing operations, since delicate instruments and carefully-assembled structures are often trundled on movable dollies and instrument "tea-carts." Also important to the aircraft industry is the reduction in weight brought about by light but strong casters, resulting in reduced hauling and moving costs.



R & M CRANES GIVE WINGS to Boiler Company Steel

In the huge Huntington Boiler and Supply Company, loads of steel are constantly on the move. For fast, efficient, safe handling, these people use one 10-ton and two 5-ton Robbins & Myers electric overhead traveling cranes. From cars to storage, storage to work area, these R & M "giants" speed daily production schedules, help create a better profit picture.

CRANES, HOISTS, WINCHES FOR EVERY JOB

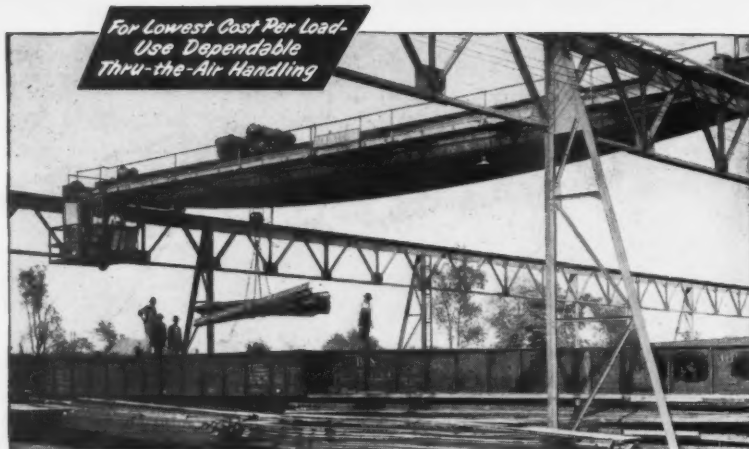
Powerful R & M units are available for lifting services from 1/4 ton to 25 tons. Many standard crane variations: gantry, overhead I-beam cranes, plus special designs for unusual applications. Also quality hoists and winches engineered for lasting service. Choice of control, suspension and capacity.

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This installation required built-up plate, welded box construction . . . fish-belly design . . . enclosed cab . . . complete weatherproofing . . . main and auxiliary hoist units (see illustration below).

How to get the most CRANE for your money

When you buy a crane, make sure you select the machine best qualified to do *your* job! The work for a crane in your plant probably differs from that in your neighbor's plant. The general crane rating and other details which are perfect for his handling problems may not be at all suitable for yours. To get the most crane for your money, let *crane duty* determine *your* choice.

It isn't entirely a matter of capacity. Travel speeds, hoisting speeds, frequency of use—all call for special consideration in the choice of a crane. That's why it's wise to discuss your problem with a Shepard Niles specialist. It's much less costly to install the *right* equipment in the beginning—than to make important changes later.

MAIN AND AUXILIARY HOISTING UNIT—Recommended for duty where there is a wide range in the capacity handled. Auxiliary hoist handles lighter loads at greater speeds than can be obtained with the main hoist.

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 STRYCO MFG. CO., 470 Natoma St., San Francisco 3, Calif. • MR. PRESTON FALLER, 1921 Minor Ave., Seattle 1, Wash.

Venetian Blinds Are Now Assembled on Production Line

TEN years ago the venetian blind industry in this country did business in the neighborhood of \$800,000. Last year, the annual figure was more than \$200,000,000. And there were 4,000 manufacturers in the business.

Practically everything about the industry had been put on a production-line basis except actual manufacture (assembly) of the blinds themselves. That operation, mechanically complicated and time-consuming, remained a persistent bugaboo to the machinery designers.

But last month the problem was solved. Now there exists an automatic machine that turns out completed venetian blinds in jig time. To the consumer, advent of this machine will mean (1) reduced prices, and (2) direct invasion of the window shade field.

To the venetian blind manufacturers, this machine is the final and most needed step toward a completely mechanized assembly process.

For example, while a *Western Industry* editor watched the operation, this machine produced a 3' 0" x 4' 0" blind in less than two minutes and thirty seconds.

The machine cut metal slats to desired length, punched holes in them, placed the slats properly in the fabric tapes, fed the cords vertically through the punched holes, stopped that activity when the blind reached its predetermined height, and then folded the blind completely for shipping.

To adjust the machine from one size blind to another requires less than half a minute. One operator can run two blinds at a time easily on this machine, and daily production (one 8-hour shift) can be in excess of 300 completed blinds. Ordinarily, such production requires 10 to 15 persons with present methods.

The company, Lite Tite Corporation, 4840 W. Jefferson Blvd., Los Angeles 16, is currently entering into negotiations for the manufacture and distribution of this machine in the United States. On a lease basis, these machines will soon be available to other venetian blind manufacturing plants.

THE WEST ON ITS WAY

ARIZONA

GOLDEN STATE BUYS—Golden State Company, Ltd. purchases the Desert Gold Farms' ice cream division in Arizona. Golden State's operations will center around Tucson, Phoenix and Casa Grande.

\$50,000 FIRE LOSS—A loss of \$50,000 was estimated by the Haining Lumber Company near Williams when fire destroyed their mill. The mill employed 25 persons, was occupied jointly by the White Lumber and Box Company and the Haining company.

LUMBER MILL TO BUILD—The O'Malley Lumber Company begins construction of a new store and office building on the northeast corner of 4th Avenue and Madison Street in Phoenix. When completed and furnished, it will represent an investment exceeding \$100,000.

PHOENIX FIRM EXPANDS THIRD TIME—Dunbar Spring and Wheel Company of Phoenix moves to larger and better quarters on the north side of Jefferson Street at Eighth Avenue. This is the third expansion for Dunbar in their thirty years in business.

PRODUCTION BEGINS ON EVAPORATIVE COOLER—Western Air Conditioning Company, 3807 North Central Avenue, Phoenix, starts production on a new small unit evaporative cooler. Production of the unit is expected to reach 15,000 this year. This is in addition to the firm's heavy commitments for manufacture of the usual type house and commercial-size coolers.

CALIFORNIA

\$2,000,000 EXPANSION FOR HUGHES AIRCRAFT—Construction is under way by the Del E. Webb Construction Company of Phoenix, Ariz., on a \$2,000,000 expansion of the Hughes Aircraft Company plant in Los Angeles.

MERGER VOTED FOR TRANSAMERICA METAL FIRMS—Transamerica Corporation announces plan to merge into a \$13 million firm comprised of General Metals Corp., Adel Precision Products Corp. and Enterprise Engine & Foundry Co. Under the plan Adel and Enterprise will be merged into General Metals and will operate as a division of that company. Adel produces aircraft hydraulics and Enterprise makes engines and oil burners.

LARGE ADDITION FOR SOUTHGATE PLANT—Buick-Oldsmobile-Pontiac Assembly Division plant at Southgate starts construction on 250,000 square feet of floor space to relieve congestion and provide greater flexibility for construction of present and future model passenger cars.

MERIT PRODUCTS, INC., MOVES TO CULVER CITY—Merit Products, Inc., makers of Sand-O-Flex contour sanding wheels, moves from Los Angeles to 4023 Irving Place, Culver City. The move was necessitated by addition of two new products to the company's line of sanding and automotive equipment. Sand-O-Block, a hand sander, and Klip-Kit, a kit for auto visors.

NON-UTILITY COMPANY FORMS—Pacific Lighting Gas Supply Company, Los Angeles, forms as a non-utility wholesale gas transmission system. The new company becomes a wholly owned subsidiary of Pacific Lighting Corporation and takes over and will operate physical properties formerly a part of the Corporation. Robert W. Miller named president and LeRoy M. Edwards vice-president and general manager of the new company. All operating personnel have been transferred.

CHEMICAL COMPANY TO PRODUCE PLASTIC COMPOUND—Monsanto Chemical Co. announces plans to produce polystyrene plastic moulding compound in the Los Angeles area. Purchase of a nine-acre site at 6251 Paramount Blvd., Long Beach, containing 31,500 square feet of floor space has been made and the new plant is expected to be in operation by August 1. With the exception of a few technical employees, workers will be recruited from this area.

LOCKHEED AIRCRAFT TO SPEND \$750,000—Lockheed Aircraft Corporation orders a huge metal-drawing press costing approx-

imately \$750,000. The 8,000-ton triple action hydraulic press will be housed in a \$500,000 building erected for that purpose. Plans call for completion by December 15, 1950.

GOLETA LEMON PLANT SPEEDED—Construction begins on a new \$900,000 packing plant for the Goleta Lemon Association to replace their former plant which was destroyed by fire last January at a loss of more than \$1,000,000. Completion is expected by October 24, 1950.

MILLION-DOLLAR RESEARCH PLANT COMPLETED—The new \$1,000,000 research building at the C. F. Braun & Co. plant on South Fremont Street in Alhambra is completed. The building is divided into three main sections. 12,000 square feet are fitted out with the latest in research equipment, 4,000 square feet is devoted to providing quarters for 20 engineers, and the remaining 10,000 square feet will be known as the bridge crane area, or research yard.

\$78,000,000 NAVY CONTRACTS PLACED WITH L. A. COMPANIES—The Navy awards contracts to plane manufacturers in the Los Angeles area totaling \$78,000,000. North American Aviation, Inc., Los Angeles, receives \$12,844,982 contract for AJ attack planes, an anti-submarine craft with two piston engines and a jet engine in the tail; Douglas Aircraft Co., Santa Monica, receives \$30,036,362 contract for F3D Skyknights, a two-engine jet fighter, and \$8,724,360 for AD Skyraiders, a propeller attack plane; and Lockheed Aircraft Corp., Burbank, receives \$25,427,942 contract for P2V Neptunes, long range anti-submarine aircraft, and \$1,188,000 for Shooting Star jets, a two-place trainer known to the Air Force as the T-33.

EXPANSION TO COST \$1,000,000—Alterations and expansion is under way at Consolidated Vultee Aircraft Corp.'s San Diego division costing \$1,000,000, to accommodate a huge new project for modifying B-36 bombers. Sixty-five B-36 planes will be flown from Air Force bases to San Diego for installation of four jet units, six new 3,500-hp. piston engines, and other modernization to improve the intercontinental bombers' performance.

\$3,900,000 CONTRACTS FOR ROHR AIRCRAFT—Rohr Aircraft Corporation, San Diego, receives \$3,900,000 in new orders. This brings the backlog to approximately \$15 million. One of the orders received was from Boeing Airplane Co. for spare power plant assemblies for B-50 bombers, amounting to \$2,500,000 and the other was a \$1,400,000 one for Boeing C-97 power package assemblies.

WRIGLEY PLANS GUM FACTORY IN CALIF.—William Wrigley Jr., Co., plans to build a chewing gum plant in California at an estimated cost of \$2,000,000, but has not yet picked out a site. 26 cities have been visited between San Francisco and Los Angeles, but no definite location has been chosen yet.

GAS COMPANY MOVES—Natural Gas Equipment Incorporated, manufacturers and distributors of gas and oil burning equipment, moves to new and larger headquarters at 190 Glenarm Street, Pasadena. The company is exclusive representative for the Wilgus Manufacturing Company of Los Angeles and is exclusive West Coast representative for Surface Combustion Corporation of Toledo, Ohio; Webster Engineering Company of Tulsa, Oklahoma, and Valve and Primer Corporation of Chicago.

SIGNODE MOVES—Los Angeles offices of Signode Steel Strapping Company moves to 659 E. Gage Avenue, to provide more warehouse space to accommodate the complete Signode line of steel strapping, tools and equipment in sufficient quantity to assure prompt delivery service.

U. P. TO SPEND \$190,000,000—During 1950, the Union Pacific Railroad will spend a record breaking \$190,000,000 with California receiving "the lion's share." \$36,000,000 will be spent for new equipment, and the balance will go for improvement of right of way, new track, radio equipping of engines and cabooses, and centralized traffic control.

\$500,000 FIRE AT BURBANK STUDIOS—Fire causing damage unofficially estimated at more than \$500,000 swept the Burbank studios of Columbia Picture Corp. The studio covers 40 acres in a residential area of Burbank.

BIDS SOUGHT ON \$2.5 MILLION WEST INSTALLATION—Bids have been called for on a \$2,500,000 plant to be erected in the West by Fitrol Corporation, Los Angeles, manufacturers of catalytic

NOW New Streamlined

RIGID 65R

Die Stock that *WON'T JAM*

... while threading with power drive or by hand



New **JAM-PROOF** drive plate automatically kicks out driving ratchet pawl when standard length thread is cut. You don't have to watch it—lead screw can't jam on workholder.



Right Here is the simple foolproof mechanism that makes the 65R automatically *Jam-Proof*

You can convert your present 65R to new **JAM-PROOF** type—buy new drive plate, put in place of old plate.

All other **RIGID 65R** features remain the same

Perfect threads on 1" to 2" pipe with 1 set of high-speed steel dies—sets to pipe size in 10 seconds—mistake-proof self-centering workholder sets instantly—and now it's *Jam-proof*.

Buy new **JAM-PROOF 65R** at your Supply House

RIGID

WORK-SAVER PIPE TOOLS

THE RIDGE TOOL CO. • ELYRIA, OHIO

THE WEST ON ITS WAY

agents used in oil refining. Under consideration are possible sites at 1700 S. Redwood Road, Los Angeles, and at Eureka, Juab County, and Henderson, Nevada.

PUTTY MANUFACTURER LOCATES IN RICHMOND—Armstrong Company establishes itself in the shop building of Yard 1, Richmond, and will manufacture putties, glazes, caulking materials and other products in use by the building industry. It occupies 10,000 feet of space. Glenn Hanks named plant manager. The national office is in Detroit and there are branch plants in several cities, Richmond being the latest addition to the line.

HOLLYWOOD TV DEVELOPMENT PLANNED—Columbia Broadcasting System plans a major television development in Hollywood and has purchased 15 acres of land now occupied by Gilmore Stadium, famous football field, at Fairfax and Beverly boulevards for an undisclosed amount, presumably several million dollars. There, CBS will build a television city designed "to take advantage of all foreseeable future trends in designs and techniques." Construction is tentatively set to begin July 21, 1951.

CITRUS ASSOCIATIONS MERGE—Placentia Mutual Orange Association and Orangethorpe Citrus Association merge, becoming the largest lemon and orange packing association organization in the industry. Robert Dowling of Placentia Mutual continues as manager of the merged operation, and John E. Eakin, Orangethorpe's former manager, becomes Dowling's assistant.

L. A. WAREHOUSE FOR SYLVANIA—Sylvania Electric Products Inc. opens its new Los Angeles Warehouse and Office Facility at 2936 East 46th Street, Los Angeles. The new building, covering 40,000 square feet, centralizes Pacific Southwest sales and service facilities, and provides warehouse space for stocks of Sylvania lighting products, photolamps, radio and TV tubes.

SCHLAGE LOCK CO. TO EXPAND—Schlage Lock Company of San Francisco schedules a 100,000 square foot addition which will greatly expand the company's facilities. Completion is expected by November 1st.

SMOKED MEAT PLANT BEGINS OPERATIONS—The George A. Hormel Company begins operations at its new plant at 147 south Army Street, San Francisco, sometime this month. The new two-story building on their 62,000 square foot site will provide expanded facilities for the processing of smoked meats, etc.

MATTRESS CO. LOCATED IN OAKLAND—The Englander Company, Inc., manufacturers of mattresses and bed springs, begins construction on its new plant at 66th Avenue and San Leandro Street in Oakland. The new one-story plant will have 60,000 square feet and will employ over 100 persons. Completion is expected for August. The Englander Company, with headquarters in Chicago, has 16 branch plants throughout the United States and is presently considering a further expansion in the Pacific Northwest.

MAYWOOD PLANT FOR RUST PROOF CO.—Operations begin at the Pacific Coast plant of Parker Rust Proof Company, manufacturers of Bonderite, Parco Compound, Parco Lubrite and other metal preparation and cleaning products, at 3710 Fruitland Avenue, Maywood, California. S. N. Headlee, former Pacific Coast regional manager for Parker's, named manager of the new plant.

TRUCK SERVICE INAUGURATED BY SANTA FE—The Santa Fe Railway inaugurates a new fast through truck service for less-than-carload freight, meeting the requirements for fast merchandise service at minimum rates demanded by the merchandise shippers of California. The new service serves generally all points on the Santa Fe Railway in California, except the mountainous and desert areas east of Bakersfield and north of San Bernardino, operating between San Francisco and San Diego, through the San Joaquin Valley.

\$1,000,000 PLANT FOR FERRY-MORSE—Plans are under way by Ferry-Morse Seed Company to construct a new plant at Mountain View, in Santa Clara County, on a 14-acre tract already purchased, where its general office and packaging operations in California will be integrated. The company now operates from San Francisco. More than \$1,000,000 will be spent and completion is expected in about 13 months.

SUGAR COMPANY SPENDS \$250,000 AT CROCKETT—California & Hawaiian Sugar Refining Co. at Crockett is spending \$250,000 by adding a couple of million-gallon tanks to its liquid sugar storage capacity in order to offer commercial and industrial users of sugar a saving of about a quarter of a cent a pound. Installation will be completed well in advance of the heavy activity expected in

THE WEST ON ITS WAY

August when canners use about 50% of their annual sugar requirements, totaling about 80,000 tons.

CONTRACT AWARD FOR CONSOLIDATED WESTERN STEEL—Iraq Petroleum Company, Ltd., London, England, awards Consolidated Western Steel Corporation, a subsidiary of U. S. Steel, contract for the fabrication of nearly 500 miles of large diameter steel pipe to be used as an international pipeline between the Kirkuk Oil Fields of Iraq to the eastern Mediterranean. About 166,000 tons of high-test expanded steel pipe will be used on the project, every section of which will be fabricated from steel plates manufactured in the West.

BAKING COMPANY FOR BERKELEY—Western Newly Weds Baking Company establishes a wholesale bakery in a leased 11,000-square foot building at 1036 Ashby Avenue, Berkeley, for the production of sheet cakes for the Western ice cream cake roll market. Bert Thompson named manager of the new company.

\$90,000 INVESTMENT FOR EMERYVILLE CONCERN—H. S. Watson Company, distributors of truck equipment, now located at 1145 Harrison Street, San Francisco, purchases a 17,000 square foot site at 67th & Hollis Streets, Emeryville, to serve as headquarters of its world-wide business.

NEW OPERATION FOR STANDARD STEEL SPRING—Standard Steel Spring Co. purchases site from the Central Manufacturing District, Inc., Los Angeles, for their West Coast factory, which will supply seat and back cushion springs and tubular seat frames for passenger cars assembled on the Pacific Coast by one of the big three automobile manufacturers, the name of which was not disclosed. Construction is now in process on the new plant which will have about 110,000 square feet and completion is expected by August 1st. Eventually about 350 persons will be employed. Production is expected to begin in late September or early October.

PASADENA SITE FOR FURNITURE MANUFACTURERS—The Van Keppel-Green Division of the Daystrom-Balboa Corporation moves from Fullerton to 321 South Arroyo Parkway, Pasadena, California. Van Keppel-Green casual furniture line will be manufactured, upholstered and assembled in the Pasadena plant, with a portion of the facilities being devoted to warehousing Daystrom-Balboa merchandise.

\$500,000 EKCO PRODUCTS PLANT—Ekco Products Co., Chicago, Illinois, manufacturers of bakers' and household pans and kitchen tools, utensils and cutlery, plan to construct a new \$500,000 plant on a seven-acre site in Whittier. When complete by the end of 1950, the new 60,000 square-foot plant will employ about 100 persons.

NEW WAREHOUSE FOR SO. SAN FRANCISCO—The Dresser Manufacturing Division, Bradford, Pennsylvania, manufacturers of pipe couplings and repair devices, opens a new West Coast warehouse on August 1, 1950, located at 103 South Bayshore Highway, South San Francisco, California. The new warehouse will give improved delivery and sales service to the states of California, Oregon, Washington, Idaho, Nevada, Utah and Arizona, which comprise Dresser's Western district, now under the supervision of R. J. Driggs, district manager. Paul McCullough, with 25 years' experience with Dresser at Bradford, named warehouse manager.

FOREMAN ENGINEERING ESTABLISHED—George Foreman establishes Foreman Engineering, located at 8909 Miner Avenue, Los Angeles 2. Telephone LOgan 5-2788. Foreman specializes in the development of dust collection and fume control equipment to meet requirements of the Air Pollution Control Board. He has personally designed, fabricated and installed units for many local plants in diversified industries.

L. A. PLANT FOR STANDARD STEEL—Standard Steel Spring Co. expects to have its new \$500,000 factory in Los Angeles in operation by October. Approximately 400 persons will be employed at the plant, which will manufacture auto seat and back cushion springs.

AMERICAN CAN ACQUIRES FACTORY SITE—American Can Co. plans to build a factory on a newly acquired 37-acre site in Los Angeles, to manufacture cans for fish, fruits, fruit juices and vegetables.

NEW AEC RESEARCH PROJECT FOR BAY AREA—U. S. Atomic Energy Commission announces that a new classified research project is being undertaken at the Livermore Naval Air Station through the cooperation of the Navy Department, which has agreed

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THE WEST ON ITS WAY

to work with the Commission in obtaining a transfer of the property. The project, costing about \$7,000,000, involves construction of a particle accelerator.

COLORADO

\$1,000,000 EXPANSION PROGRAM FOR FRONTIER REFINING—The Frontier Refining Company, Denver, Colorado, announces plans to launch a market expansion program costing nearly one million dollars, including the construction of 40 combination service stations and bulk plants, the first of which will be built at Brighton, Colorado. Another part of the program under way will be construction of a terminal plant at North Platte, Nebraska, which will take 18 months to two years to complete. Tank truck shuttle service will be established to North Platte from Cheyenne, Wyo., where Frontier has its refinery.

SPACIOUS WAREHOUSE FOR DENVER STEEL FIRM—Silver Steel Company division of Silver Engineering Works, Inc., Denver, Colorado, begins work on a new \$400,000 steel warehouse located on a 43-acre tract on U. S. Highway 85, 1½ miles north of Denver. Included in the construction plans are a main warehouse building, plus an adjoining office, providing 75,000 square feet under roof. When completed the operation will employ between forty and fifty persons. The new plant facilities will take over all steel warehousing and wholesale sales presently carried on by Silver Engineering Works from the parent plant at 33rd and Blake Streets on an expanded scale, and will serve Colorado, Wyoming, New Mexico, Montana, Utah, and Western Nebraska. Thomas D. Fahey, general manager of Silver Steel Company, heads operations at the new plant.

CONCRETE COMPANY SOLD FOR \$600,000—R. B. Millay of Waco, Texas, Irwin Rendle of Rawlins, Wyo., and Erskin R. Myer, Denver, Colorado, buys Colorado Pre-Mix Concrete Company located at 24th and Delgany Streets in Denver, from H. E. Stice for a reported \$600,000. No immediate change in personnel is anticipated, but the new owners are planning considerable expansion for the firm. The company now serves the Denver area.

\$1,500,000 PLANT FOR FERMENTATION FIRM—The Industrial Fermentation Company, which plans to convert wheat and sorghums into industrial alcohol and other products, plans to construct a \$1,500,000 plant in southwest Kansas or southeast Colorado. Six sites are under consideration, with general offices located in Denver. Election of officers and directors has been held, and an application to market its stock filed.

\$8 MILLION GAS LINE SOUGHT—The Colorado Interstate Gas Company files appeal before the federal power commission to expand its properties and build a new \$8,000,000 natural gas pipeline into Texas to meet an expected, tremendous growth of eastern Colorado.

INTERNATIONAL HARVESTER PLANS EXPANSION—International Harvester Company plans to build a new combination branch office and salesroom at 3280 Brighton Boulevard in Denver at an estimated cost of \$310,000. F. J. Kirchhof Company of Denver named general contractor for the project. The main building, containing about 35,000 square feet, will more than double the company's space. The present building at 2375 Fifteenth Street will be retained for subsidiary use.

HAWAII

VERMICULITE PLANT MAKES DEBUT—Vermiculite of Hawaii, Ltd., the most recent licensee of the Zonolite Company, miners of vermiculite, opens its new Hawaiian plant at 1152 Waimanu Street, Honolulu. Principals of the firm are Walter W. Wohlforth and Thomas K. White.

IDAHO

CLINTON ACQUIRES SNOW CROP PLANT—Clinton Foods, Inc., New York, acquires Snow Crop Marketers division of Northern Idaho Frozen Foods plant at Lewiston, Idaho. This is the first processing plant for Snow Crop quick frozen foods and vegetables

THE WEST ON ITS WAY

purchased by Clinton, although the company owns large juice packing facilities elsewhere. The plant is modernly equipped and over 4,000 acres of peas now are under contract.

MONTANA

CONCRETE FIRM INCORPORATES—Montana Ready-Mixed Concrete Association, with principal offices in Helena, incorporates as a new non-profit organization. Directors include Gene Fehlig, Helena; Floyd Pappin, Great Falls; Adolph Bromgard, Billings; Oscar Peterson, Butte, and Charles B. Nicely, Anaconda.

HAVRE IHC SETUP SOLD—Ernest A. Eaves and David Barr purchase the F. J. Nichols Implement Company at 539 First Street, Havre. The new firm will be known as Eaves & Barr and will carry a complete line of International Harvester equipment, including International Harvester trucks, farm equipment, refrigerators and home freezers.

NEVADA

\$5,000,000 PROJECT PLANNED AT BMI—The Nevada Colorado River Commission signs agreement with Harvey Machine Company of Torrance, California, for purchase of facilities at the Basic Magnesium plant at Henderson at a reported cost of \$5,000,000. Harvey Company begins immediate new construction and alterations at BMI under terms of the contract. Establishment of a single pot aluminum reduction plant will be made, employing 400 persons at the outset. In addition to its reduction plant, Harvey plans to construct a sheet rolling mill.

\$2,000,000 OIL COMPANY IN ELKO—Newton Crumley, Joe F. McCarthy and John J. Hunter join to form a \$2,000,000 oil corporation in Elko, to be known as McCarthy Oil Company.

NEW MEXICO

SUPERLITE MATERIALS CORP. FORMS—Superlite Materials Corp. of New Mexico forms and begins construction of a concrete products plant for manufacturing pumice blocks and bricks on a 7-acre tract at Santa Fe tracks and Woodward Avenue, Albuquerque. The plant's main structure will include storage for both raw materials and finished products. The new corporation is a merger of interests of Pumex Corp., and Builders Supply Corp., of Phoenix, and Superlite Corp. of Calipatria, Calif. Corporation offices downtown are at 262 Korber Building, Albuquerque.

OREGON

ACQUIRE INTEREST IN PLYWOOD FIRM—The Menasha Wooden Ware corporation purchases the half interest of the Coos Head Timber Company in the Menasha-Coos Head Plywood Corporation at North Bend. The name will be changed to Menasha Plywood. Charles Ducy, in charge of the plywood corporation for Menasha-Coos Head, continues in that position.

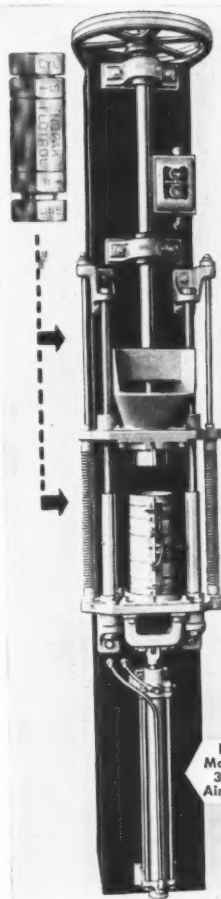
\$25,000 FIRE DAMAGE AT LUMBER MILL—Fire damages the Charles Snellstrum lumber mill in the industrial Seneca district, northwest of Eugene, at an estimated loss of \$25,000.

SAWMILL TO BE REBUILT—Long-Bell Lumber Co. plans to spend \$500,000 to rebuild a sawmill destroyed by fire at Vaughn, Oregon. Stein Bros., general contractors at Eugene, have been awarded contract, and the mill, employing 300 men, will be ready for operation by October 15.

CENTRAL LUMBER CO. TO EXPAND—Central Lumber Company of Oregon plans a five-acre expansion, which will result in doubling the present annual \$75,000 payroll. Major operation at the plant is finishing rough lumber.

SUTHERLIN MILL RAZED BY FIRE—Fire destroys the Tye Lumber Company sawmill west of Sutherlin. Nearly 150 men will

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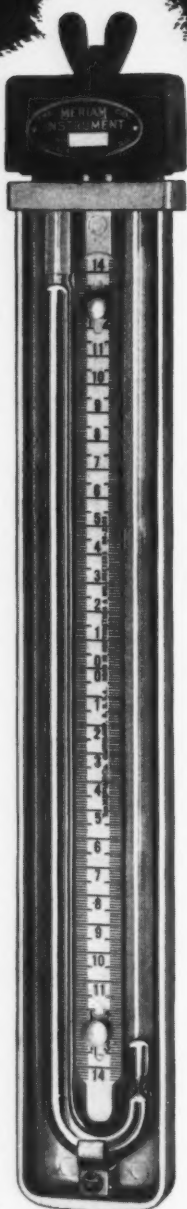
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THE WEST ON ITS WAY

be affected by the shutdown. Plans are being made to start small mills on the old site in order to keep the operation going.

CONTINENTAL CAN OPENS NEW PLANT—Continental Can Company's new \$1,250,000 Portland can manufacturing plant begins operations to service the need of constantly growing canning and packing industry in the Portland area. The new plant located on a 57-acre site in the Burgard Avenue Industrial Area is a completely mechanized, modern plant, and incorporates the latest in can manufacturing processes and techniques.

ALBANY LAB EXPANSION BEGINS—Northwest electric development laboratory begins a \$325,000 expansion, the greater part of which will be spent in improving the rare metals pilot plant. Engaged chiefly in producing zirconium, the plant will double in capacity. 90 men will be employed during the construction period, and 30 of them will be kept on permanently, bringing the laboratory's regular staff to about 160.

\$750,000 PLANT FOR SAWYER'S INC.—Sawyer's Inc. plans to build a new \$750,000 plant near Tigard, with a total area of 122,000 sq. ft. of floor space. This move is necessitated by a tremendous world-wide business increase in recent years. 200 persons are presently employed by the company.

SUGAR CO. TO BUILD PACKAGING PLANT—Amalgamated Sugar Co. purchases a 3-acre tract at N. E. 24th and Columbia Boulevard, Portland, and will construct a modern warehouse and packaging plant. This company, the only sugar producer in the state, has a modern refinery at Nyssa.

HARDBOARD PLANT AT DEE—Blaw-Knox Co. plans to build a hardboard plant at Dee for Oregon Lumber Company. It will manufacture hardboard from fir slab wood or saw trimmings which have been largely waste products, under a new process developed by Oregon Lumber. Output of the Oregon plant will be supplied to the general construction industry, home and prefab builders, furniture and cabinet makers and to radio and auto manufacturers.

UTAH

SOUTHERN UTAH POWER SALE—Authorization is made by the SEC for the trustee of Washington Gas & Electric Co., Tacoma, to begin negotiations for the sale of Washington's stock interest in Southern Utah Power Co., Cedar City, Utah. Before sale is completed, approval by the U. S. district court in New York and by the bondholders and general creditors of Washington must be obtained.

COMBINED METALS REDUCTION CO. AWARDED BMI CONTRACT—Nevada Colorado River Commission signs contract with Combined Metals Reduction Co. for required power and facilities at the Basic Magnesium plant at Henderson, Nevada. The company has leased approximately 100 acres of land, including some of the major buildings and equipment at the plant, and plans to utilize the Henderson properties in its new process for treating complex oxidized ores containing lead, zinc and manganese. The process will begin at its Pioche properties and continue at Henderson.

\$25 MILLION PIPELINE TO SALT LAKE CITY—Utah Natural Gas Co. plans a 325-mile, 22-inch pipeline from natural gas deposits of the "Four Corners" area in southwestern Utah to the Salt Lake City region. Approval must be obtained by the Utah public service commission for the facilities costing \$25,000,000. Hearings are expected to be held in August or September after a study of the project.

UTAH OIL PLANS \$995,000 PROJECT—Utah Oil Refining Co. plans a \$995,000 building program and large-scale oil prospecting in the Uintah basin of eastern Utah. Nine deep wells are planned at an anticipated cost of \$400,000 per well. Construction plans for 1950 include a \$700,000 service station building project, principally in the company's Idaho holdings; completion of the \$225,000 asphalt blending plant at the present refinery; a \$30,000 laboratory at the Salt Lake City refinery, and ending the drilling program for the present at Ashley Valley field where Utoco has 25% interest in ten wells.

AWNING COMPANY MOVES—Zephyr Sales Corporation, new company formed to market a permanent all-season ventilated awning, moves to a new location at 2416 S. State, Salt Lake City.

\$2,500,000 FILTROL CORP. PLANT—Filtrol Corporation announces tentative plans for construction of a \$2,500,000 plant in Utah or Nevada. Most likely site is the Industrial Center on the west

THE WEST ON ITS WAY

side of Salt Lake City, although Eureka, Utah, south and west of Salt Lake City, or Henderson, Nevada, are under consideration.

NEW REFINERY FOR KENNECOTT—Kennecott Copper Corporation expects to complete construction of a \$16,000,000 refinery located near Garfield, 20 miles west of Salt Lake City, in August. The plant will manufacture electrolytic copper in the form of wire bars, ingots and ingot bars. It will also recover other metals.

ROBISON-KERSHAW CO. FORMS—Walter W. Kershaw purchases a substantial interest in the Robison Machinery Company, Salt Lake City. The new organization to be known as Robison-Kershaw Company, located at 245 W. South Temple, is distributor in Utah and part of Wyoming for Caterpillar Tractor Co. and allied equipment.

NEW PUMP STATION FOR S. L. PIPELINE—Salt Lake Pipeline Co., subsidiary of Standard Oil Co. of California, plans to build a new pump station at Myton, Duchesne County of eastern Utah, on the Rangely, Colorado, to Salt Lake City crude oil line. Sterns-Rogers Manufacturing Co. of Salt Lake City has the contract for construction and Ashton Brothers of Vernal will build adjacent employees housing.

WYOMING

AIR LINES MERGE—Challenger Air Lines Co. and Monarch Air Lines, Inc., merge and change name to Frontier Air Lines. New officers of the merged concern include H. S. Darr, president; C. A. Myhre, D. A. Duff and R. M. Wilson, vice-presidents; and Emil Levin, secretary.

LOCATION SOUGHT FOR PROCESSING PLANT—Plans are under way by General Sulphur Corporation to construct an \$800,000 sulphur processing plant in the Sunlight basin country. A location is being sought for the plant somewhere near the Sunlight basin sulphur deposit and depends largely on road facilities. Construction begins this summer and when the plant is completed, it will employ about 50 men on a year around basis.

\$1,000,000 STRIPPING PLANT FOR MOUNTAIN FUEL—Mountain Fuel Supply Co. plans a million dollar "stripping plant" to remove gasoline and raw materials for petroleum chemicals from natural gas, at the Church Buttes gas field in Wyoming. Preliminary planning indicates the new facility could be in operation by 1952 or earlier.

WASHINGTON

\$50,000 BLAZE AT BINGEN PLANT—Fire destroys McCormick Lumber Company planing mill and resaw unit at Bingen, at an estimated loss of \$50,000.

PEA PLANT BURNS—The huge San Juan pea cannery at Mt. Vernon burns. Estimated damage is placed at \$100,000.

MATERIALS FIRM PLANS ADDITION—Mansur Materials, Inc., wholesale building material distributors for Johns-Manville and other nationally known lines, plans a warehouse addition at E210 Riverside, Spokane. The expansion program will enlarge present company warehouse facilities to a total of 20,000 square feet of floor space. The firm now serves some 250 building material dealers located in eastern Washington, northern Idaho and western Montana.

KEOKUK SPENDS \$1,500,000—Having been closed for nine months, Keokuk Electro-Metals Company reopens its completely redesigned plant at Rock Island, now known as the Wenatchee division of KEM, employing 75 persons. The ferrosilicon mill represents a purchase price of \$382,000 for the old ferro-alloys plant, plus recent installations of electrical and mechanical equipment costing \$1,500,000. Silvery pig iron will be processed from ore from Buckhorn Mountain near Oroville.

KAISER TO SPEND \$1,000,000 ON SPOKANE MILL—Kaiser Aluminum & Chemical Corp. plans to spend about \$1,000,000 during 1950 to improve and increase efficiency at its Spokane aluminum rolling mill. The program calls for modernization of the cold mill as well as new equipment for the "hot line."

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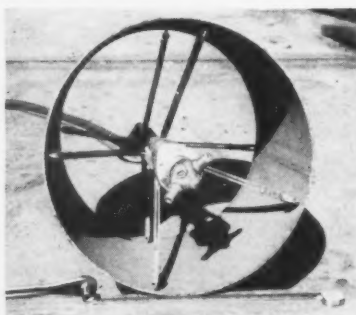
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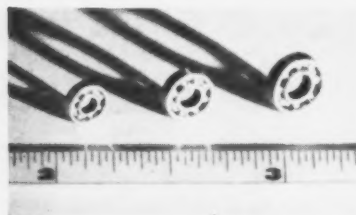


sand blasting helmet is not required, and in most cases the operator does not need to crawl into the pipe. This device, effective on both new and used pipe, cleans and prepares inside surface for protective coating with the "cyclone nozzle," driven by a small air-powered motor. More info. from Row W. Kelly, 593 Market St., San Francisco 5.

E-75018

Miniature Ball Bearings

These new bearings, designated by Landis & Gyr, New York, as the RO series, are the low-cost addition to a



present line. They come in the same 12 sizes as the R bearings, but at about one-half of their cost. Sizes start at .0295" (.75 mm) bore and .1181" (3 mm) o.d.

E-75019

Chemical Metal Cleaner and Flux

"Formula 73" is the name of a new preparation offered by Sully Engineering, Ltd., Los Angeles. This liquid

comes in unbreakable containers from ¼ pint to drums. "Formula 73" removes rust and corrosion from steel prior to painting or welding; it removes oxides from copper prior to sweat fitting or silver brazing without sandpapering; it acts as a fluxing agent for soft soldering; it acts as a cleaner for all welding-brazing operations; it removes heat scale and flux from steel and stainless steel; it is non-corrosive, non-toxic, non-inflammable, and non-caustic. And it costs 55¢ per ¼ pt., \$1.10 per pt., \$4.00 per gal., in unbreakable containers. Drum prices on request. Get it from Sully Engineering, Ltd., Los Angeles.

E-75020

Liquid Moly Super Lubricant

The Lockrey Co., College Point, N. Y., have developed a lubricating product which they say forms a permanent friction-supporting film which cannot be squeezed out by any amount of pressure, thus protecting the bearing against scoring or seizing even after all the oil has been burned out. "Liquid Moly" is unchanged by extremes of temperature, operating effectively at sub-zero or red heat. One possible plant use is to lubricate deep-drawing dies. It is available for experimental purposes at \$2.00 per pound.

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Drum Holder

"Ideal Drum Holder" (by National Sales Co., Los Angeles) is sturdily constructed of cold rolled steel, electric welded, and capable of supporting 1,000 lbs. It keeps a drum in upright position when not in use, eliminating leakage and dripping. Available with ball-bearing casters, enabling drum to be moved where needed. Construction allows drum agitation before drawing off liquids in suspension.

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¾ Ton Utility Hoist

Hydraulically-powered hoist, can be used on 3-wheel tubular steel floor frame or be quickly converted for use on truck beds, work benches, loading docks. Will lift a ¾ ton load 77½" in 45 secs. By using a short hook-up, 2,000 lbs. can be lifted 52" in 45 secs.

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Double action hand operated hydraulic pump. 45" boom swings 360°. Wheels on floor frame equipped with needle bearings. Hoist with truck mount sells for \$225, f.o.b. Minneapolis; with tubular steel floor mount, \$295, f.o.b. Minneapolis. Unit Mfg. Co., Minneapolis.

E-75023

Portable Ultraviolet Lamps

Extreme portability, light weight and low heat output are features of the new SL series Mineralight ultraviolet lamps (producing light of either 2537 or 3660 Angstrom wave length (now



available from Stratex Instrument Co., Los Angeles. They work on 110v AC, DC, or 45v B batteries, are 10½ inches long, weigh one pound, are rated at 10 watts for low heat output when working with organisms and living tissues. Ideally suited to production and quality control inspections, speed of reaction measurements, timing duties, examination of vessels for contamination, etc.

E-75024

Hot News for Paint Departments

Possible trend of this industry is use of steam instead of compressed

Items evaluated by Western Industry's technical advisors on basis of information supplied by producer.

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Information Bureau, WESTERN INDUSTRY

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_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
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Also further information on the following products advertised in this issue:

_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Name _____ Title _____

Company _____

Address _____

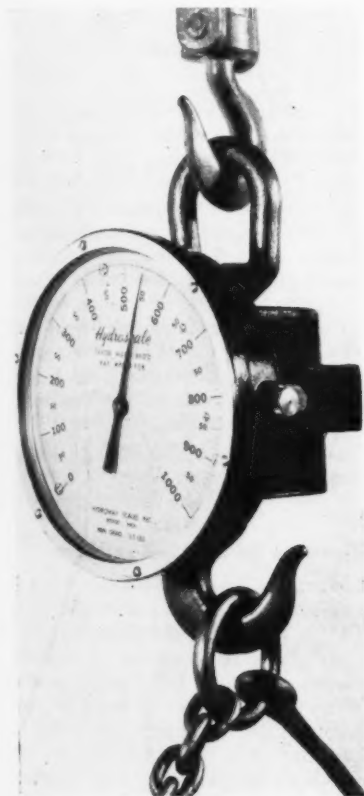
City _____ Zone _____ State _____

air. A leading chemical manufacturer recently announced these results of research in spray painting, using steam: (1) one pass application for 2 mils of film; (2) increased efficiency through less overspray; (3) lower finishing costs. To supply users of electric steam equipment for painting, *Livingstone Engineering Co., Worcester, Mass.*, offer the "Speedylectric SP500," an all-electric steam power plant with built-in 100 p.s.i. boiler, ASME code, National Board inspected and stamped, UL listed. This boiler is self-regulating, is now available to take 1 to 10 spray guns (or larger) and operates on 220, 440, 550 volts AC single or polyphase.

E-75025

Hydraulic Scale

This scale weighs as it lifts. By adjusting pointer to zero when tare load is imposed, direct net load reading is taken. Dial sizes from 12" to 30" dia., with 1/2-lb. to 100-lb. graduations.



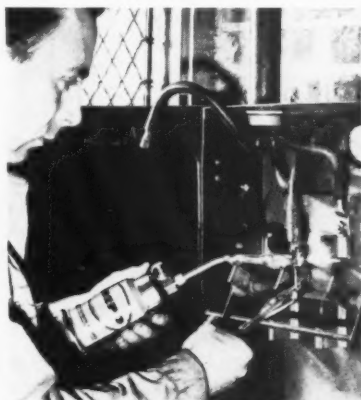
Accurate to within 1/2% of capacity. Standard models up to 25 tons capacity. Lifting eyes fit on standard crane hooks. Scale is both rugged and precise, operates on static pressure principle. Permanently sealed hydraulic operation. Available from *Carl J. Kennedy, 918 N. Kenilworth Ave., Glendale, Calif.*

July, 1950—WESTERN INDUSTRY

E-75026

New Hand Torch

The 2200° blue flame quickly tins cable end and fills lug with solder. It is then moved up to its position on the cable for a lifetime connection. This handy tool, "Prepo" torch, lights

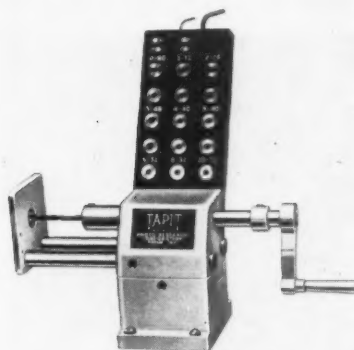


quickly without pumping, priming, or pre-heating. When fuel is exhausted, throw away the empty can and attach a new one to the torch. Torch unit comes with two interchangeable burning tips. One throws a long, broad flame; the other, a long pin-point flame. Torch is "tool-box" size, weighs 1 1/2 lbs., and burns a fuel that is non-toxic, non-poisonous, and has an odor (put there) to facilitate detection of a valve you might forget and leave open. Available from *Appleton Electric Co., Chicago, Ill.*

E-75027

Tapit Hand Tapper

This unit, according to *Photo Research Corp., Burbank, Calif.*, manufacturers, is designed to increase pro-



duction, eliminate tap breakage and work spoilage, hold taps in positive alignment with holes, and operate either in hand or in a bench vise, by "inexperienced help. As shown, \$25.00.

E-75028

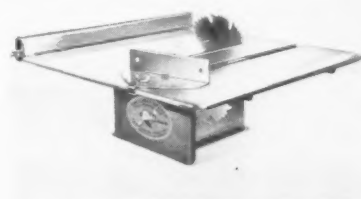
One-piece Metal Skid Platform

Blows and bumps inflicted upon this steel skid are all absorbed by the knee. This is because Union Metal Skid Platforms are all doubly corrugated one inch deep on both sides and top, joined by a raised center rib. This pattern repeats along the length of the skid. Skid dimensions vary from 12" to 72" wide, and from 12" to 126" long, and from 6" to 27" in clearance from the floor. Runners can be fitted along the legs, stake pockets can be welded on the sides, and many other individual variations can be easily effected. Talk to *Union Metal Mfg. Co., Canton, Ohio*, about your individual company problems.

E-75029

Light Weight Bench Saw

"Eager Beaver" is a ball bearing, all metal, portable or stationary bench saw that weighs only 6 1/2 pounds



packed for shipping, and costs only \$10.95 retail, Model 601. It has indexed mitre gauge, a full two-inch cut, six-inch tempered circular blade, arbor pulley for power drive, and table size 12 1/2" by 13 1/2". Available from *Sierra Tool Co., Inc., Los Angeles*.

E-75030

Multi-Stak Pallet Stacker Unit

Multi-Stak pallet stacker unit, by *Elizabeth Iron Works, Elizabeth, N. J.*, is an all-steel pallet with self-contained collapsible attachment. Stacks can be as high as fork lift or ceiling will allow. Each unit has 4,000-lb. capacity, and can be transported by a fork lift truck. Easily collapsed for compact storage. Come in widths from 36" to 48"; lengths from 36" to 60"; storage heights from 19" to 49".

E-75031

Portable Stacking Type Stock and Pallet Racks

Sheet metal, packaged goods, heavy motors, etc., are but a few of the items that can be stored on these flexible units. Savings in both floor space and

handling time are evident when the rack, not the product, carries the load. Wooden floor stringers and side bars completely surround the material stored. Centerweld steel tubing is used for all racks. Post extensions, extension frames, removable casters and side bars add to unit flexibility. *Equipment Mfg. Co., Detroit, Mich.*

E-75032

Compact A.C. Volt-Ammeter

Features claimed: Built to measure current without interrupting service, the 12-oz. Amprobe features 2 insulated split-core transformer probes



which are opened by a plastic finger trigger to close around conductors up to 1 1/8 in. in diameter and measure currents in various circuits. To measure voltage, a pair of test leads are inserted into front-mounted pin-jacks and connected to the two sides of a line. A 7-position selector switch is provided for the 7 ranges of the scale. The Tenite case is built to withstand rough treatment.

Manufacturer: Pyramid Instrument Corp., New York City.

E-75033

Heat Flow Testing Device

Features claimed: With this device (even without technical training) you can test the performance of various kinds of thermal insulation, including multiple sheets of accordion aluminum, mineral wool, and other substances. This instrument is light in weight, compact, solidly constructed. Stand it on a desk or table, plug it in, switch on the heat bulbs, and begin testing the insulation. Simple instructions are furnished. Tests down heat flow, up heat flow, and transverse heat flow, as in walls. To get a tester for two weeks free use, write to Mr. W. I. Michaels, Infra Insulation, Inc., 10 Murray St., N. Y.

E-75034

Unbreakable Pail

Features claimed: Unbreakable, the Ace-Hide 3-gallon pail provides for safe handling of virtually any type of corrosive solution. The specially de-



signed spout pours an easily-directed stream, making it possible to pour directly into narrow-necked vessels, at the same time eliminating any drip. The rim design permits use of close-fitting, splash-proof cover. Handle and pail are made of a high-styrene, copolymer rubber. An easily read scale on the inside of the pail is marked off in half-gallons.

Manufacturer: American Hard Rubber Company, New York.

E-75035

Abrasive-Resistant and Chemical-Resistant Plastic

Features claimed: A plastic compound which can be produced in varying degrees of flexibility ranging between elastic soft rubber and brittle hard rubber. One of Enrup's outstanding uses is for the manufacture of high strength, low-cost gears to replace metal gears in such applications as heavy-duty lathes, household appliances, plating barrels, automotive timing devices and dynamometers. The



plastic is particularly suited for washing machine parts where its resistance to the newer type of synthetic detergents gives it an advantage over metal. It is available in the form of sheets, rods, tubes, gear blanks, and as molded parts.

Manufacturer: United States Rubber Company, New York City.

E-75036

"Flying Saucers"

Features claimed: Bassick's "Flying Saucer" caster, only 3 1/8 in. high, consists of a 3-in. diameter wheel on a swivel base. The wheel, instead of be-



ing round to tread vertically, is saucer-shaped and rolls at an extreme angle. This feature enables the "Flying Saucer" to roll over obstacles and move more easily on rough floors than conventional casters of equal overall height. It is designed for relatively light equipment like shoe racks, garage equipment, dollies, etc., which require a caster both low in overall height and fast swiveling for quick, easy movement in any direction. The saucer wheel is case hardened for long wear and resistance to abrasion.

Manufacturer: The Bassick Company, Bridgeport 2, Conn.

E-75037

Elevator Selenium Rectifiers

Features claimed: Designed to provide low-cost elevator conversion from DC to AC, these Selenium installations allow continued use of existing motors, controls, and panel boards. This installation assures lower current consumption, smoother car control, high efficiency, power factors, and requires no maintenance. New innovation is an economical, efficient regeneration control for high-speed, gearless-traction drives. Units consist of cooling-fan motor, Selenium rectifier plates, heavy-duty transformers, wiring, and regeneration control if necessary.

Manufacturer: Industrial Electronics & Transformer Company, Los Angeles, Calif.

HELPFUL LITERATURE

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7501-L

COLORADO LABOR SUPPLY AND TRAINING FACILITIES are discussed in a 68-page booklet prepared by *Colorado Development Council, Inc.*, 522 Kittredge Bldg., Denver 2, Colorado. It contains a report of Colorado's Human Resources and is available upon request for \$1.00.

7502-L

MAJOR INDUSTRIAL POTENTIAL OF SNOHOMISH COUNTY is an economic survey of the resources of Snohomish County, Everett, Washington, written by Ivan Bloch and distributed by the Public Utility District of that County. It is a comprehensive survey covering 136 pages of text, maps, tables and photographs, and tells the story of Snohomish County's raw materials, water and power supply, port and transportation facilities, climate and people. Trade, scientific and business publications will receive a copy upon request.

7503-L

MOTORS AND GENERATORS—A new bulletin (15-1) has been published by the *Janette Manufacturing Company*, designers and manufacturers of electrical equipment, describing the performance and construction features of Janette's line of motors and generators. Copies of this bulletin may be obtained by writing the Janette Manufacturing Company, 556 West Monroe Street, Chicago 6, Illinois.

7504-L

LUBRICATION—The Lubriplate Division of Fiske Brothers Refining Co. has released for free distribution its new 44-page Data Book No. 1-50. This new book contains much valuable information on the subject of lubrication and should prove of considerable interest to those in charge of operation and maintenance of mechanical equipment. Address *Fiske Brothers Refining Co.*, 129 Lockwood Street, Newark 5, N. J., for your free copy.

7505-L

BARON DEGREASERS—Baron Industries, Los Angeles, manufacturers of Baron Degreasers manufactured under patents licensed by E. I. du Pont de Nemours & Company, announces publication of their new catalog describing the line of degreasers now made in their Los Angeles plant. The catalog also describes their service policy under which each machine is installed. Copies may be obtained by writing *Baron Industries*, 2315 Jesse St., Los Angeles 23, California.

7506-L

LEAD-ACID BATTERY PROBLEMS—A descriptive pamphlet is available by *Pioneers, Inc.*, 2411 Grove Street, Oakland 12, California, containing condensed information on what you should know about lead-acid batteries, in order to properly maintain them. Also included is information on how the harmful effects of "sulfation," which is the direct or indirect cause of approximately

70 per cent of all battery failures, can be reduced with "Battery AD-X2," thus extending the life expectancy of lead-acid batteries.

7507-L

MATERIAL HANDLING EQUIPMENT—The entire line of Rapistan material handling equipment is presented in a two-color bulletin published by *The Rapids-Standard Company, Inc.*, 342 Rapistan Bldg., Grand Rapids 2, Michigan. Action photographs demonstrate how this "flow" equipment speeds up operations and lowers handling costs in many industries. Included are short descriptions of gravity wheel and roller conveyor, floor and hand trucks, and Rapistan industrial casters. Illustrated and described are permanent and portable power belt conveyors for stacking, boosting, or inter-floor handling of a wide variety of materials, including boxes, cartons, lumber, forgings and bag products. Request your copy of Bulletin GS-49 today.

7508-L

"INSTALLATION, MAINTENANCE, REMOVAL OF ANTI-FRICTION BEARINGS" is the subject of a 20-page booklet published by *The Anti-Friction Bearing Distributors' Association*, 1900 Euclid Bldg., Cleveland 15, Ohio. This booklet is a handy guide to correct shop procedure that can increase bearing efficiency and eliminate many bearing failures. It has been compiled and printed by the Association as a service to plant supervisors, maintenance men and others responsible for maintenance of equipment containing anti-friction bearings. Your copy is free for the asking.

7509-L

Conveyor News—S-A CONVEYOR is the name of a regular quarterly publication issued by *Stephens-Adamson Mfg. Co.*, Aurora, Illinois. It gives the latest information on Stephens-Adams equipment and is available free to materials handling engineers, and users of conveying-elevating, screening and transmission equipment. Volume 193, the latest, has 20 pages.

75010-L

A DICTIONARY OF ELECTRONIC TERMS—has been published by Allied Radio Corporation. The new publication answers the need for an accurate, up-to-date reference source of words used in the rapidly expanding electronics field. Over 125 illustrations and diagrams of components, equipment and electronic circuits are included, as well as an appendix section containing useful radio data. This 64-page format is available from *Allied Radio Corporation*, 833 West Jackson Blvd., Chicago 7, Illinois, for 25c to cover handling and mailing costs.

75011-L

THE FACTS OF LIFE FOR DRAFTSMEN are illustrated in a new booklet by *International Association of Blue Print and Allied Industries*, 506 South Wabash Ave., Chicago 5, Illinois. Tips on paper and cloth, standardization of sizes, color, pencil and ink

techniques and the use of reverse carbon paper are covered. Free copies may be obtained from your commercial blue printer or from the Association above named.

75012-L

AUTO BAKE—A new bulletin describing Auto Bake, a mobile infra-red paint drying oven designed for garages and car refinishers, has been released by the *Kellogg Division of American Brake Shoe Company*. This bulletin presents eleven engineered advantages of Auto-Bake which insure dust-free, factory-quality paint jobs. Dimensions of various models are described as well as general construction features of the units. Six models are available to service all types of passenger cars, trucks, trailers and buses. A table lists complete specifications for each. Copies are now available and will be mailed upon request to 97 Humboldt Street, Rochester 9, New York.

75013-L

UTILISCOPE—is a wired television arrangement whereby a person in one place can observe action taking place at another location, the two points being connected by wire with a camera at one end and a television set at the other. *Diamond Power Specialty Corporation*, Lancaster, Ohio, has a booklet entitled "Utiliscope" which is yours for the asking.

75014-L

"SELLING TO THE GOVERNMENT" is described in a pamphlet now available by the *Chamber of Commerce of the United States*, Washington 6, D. C. Businessmen who want to sell to the federal government have many of their knottiest problems simplified for them in this 64-page guidebook. The publication explains procurement operations and lists agencies which make major purchases. The businessman is shown how he can learn which agency commonly buys items that he makes, where and how they are bought and what kind of purchases are being made currently. Get your free copy today.

75015-L

USE OF OAKITE MATERIALS IN WATER WASH PAINT SPRAY BOOTHS—is described in a 3-page Service Report issued by Oakite Products, Inc., which contains specific materials and procedures that (1) prevent paint droplets from coagulating and adhering to metal spray booth surfaces; (2) help protect pumps, lines and nozzles from clogging; and (3) reduce the frequency and difficulty of maintenance clean-up operations. In addition, the Report offers specific recommendations for combating excessive foaming of paint spray booth solutions. Copies are available without charge by addressing *Oakite Products, Inc.*, 1001 E. First Street, Los Angeles 12, Calif.

75016-L

WATERPROOFING MASONRY SURFACES—is described in two new folders by *Prufcoat Laboratories, Inc.*, 63 Main Street, Cambridge 42, Massachusetts. The blue folder describes the Prufite line and includes engineering test reports as well as questions and answers about the use of Prufite formulations. "The Skyscraper that came to Prufcoat" folder tells a rather unusual case history about a well-known New York skyscraper where Prufite and other Prufcoat formulations have been used. Copies of both folders will be mailed upon request.

NEW INDUSTRIAL FILMS FILMSTRIPS • TELEVISINGS

Industrial Engineering

Title: "Mighty Labors."

Subject: The story of Industrial Engineering, explaining the functions and benefits of the major industrial engineering controls.

Supplementary information: 16mm. sound color film.

Available from: (In order of application) Industrial Engineering College, 3309 West Washington Blvd., Chicago 24, Illinois. Cost: \$6.69 plus postage.

Broaching

Title: "An Unusual Broaching Operation."

Subject: A chronological story of the making of the broach from the melting of the original alloy steel to its use in production.

Length: 22 minutes.

Supplementary information: 16mm. color sound film. No charge for use of film.

Available from: Detroit Broach Co., Inc., 20201 Sherwood Ave., Detroit 34, Michigan.

Plastics

Title: "The Scientific Approach to Better Plastics."

Subject: A technical film, depicting the plastic research project in operation at the Massachusetts Institute of Technology.

Length: 20 minutes.

Supplementary information: 16mm. sound

color film. No charge to educational institutions of the advanced high school and college level, as well as any industrial organization.

Available from: The Society of the Plastics Industry, 295 Madison Avenue, New York 17.

Mining

Title: "Prospecting for Petroleum" and "Birth of an Oil Field."

Length: Each, 30 minutes.

Supplementary information: Each 16mm. color sound film, available for loan or showing to organized groups. Both films acquired through courtesy of the Shell Oil Co., Inc.

Available from: California Division of Mines Library, Ferry Building, San Francisco 11, California.

Use of Blue Prints, Etc.

Title: "The PRINT Before the PRODUCT."

Subject: A film describing use of blue prints, white prints, photocopies, photographic blow-ups, and allied reproductions in all phases of industry.

Length: 25 minutes.

Supplementary information: 16mm. sound color film. No charge for use.

Available from: Film Department, International Association of Blue Print and Allied Industries, 506 South Wabash Avenue, Chicago 5, Illinois.

Education

Title: "Land of the Free."

Subject: Deals with economic education of employees.

Supplementary information: Slide film (in color) with record. Charge covers cost of series of six sound slide films, sold in package only. Use any slide film projector.

Available from: R. A. Dearth, Ross Roy, Inc., 2751 E. Jefferson Avenue, Detroit 7, Michigan.

Steel

Title: "Steel Arteries for the West."

Subject: An industrial motion picture that tells the story of the manufacture of Western-made pipe, released by the Kaiser Steel Corporation.

Supplementary information: 16mm. color sound film. Available to the public on a free loan basis.

Length: 17 minutes.

Available from: Public Relations Office, Kaiser Steel Corporation, Fontana, Calif.

Smog

Title: "Cooperating for Pure Air."

Subject: A film describing the smog problem in Los Angeles County and the steps being taken to cure it, showing some of the control devices and installations.

Supplementary information: 16mm. sound color film. No charge for use.

Available from: Miss Lucille Shortling, County of Los Angeles Air Pollution Control District, 5201 Santa Fe Avenue, Los Angeles 11, California.



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READING GUIDE FOR WESTERN MANAGEMENT

A service for all management levels . . . current literature surveyed and appraised by the faculty of the School of Management, Golden Gate College

The Art of Board Membership

By Roy Sorenson, Association Press,
New York, 1950, \$2.00.

Anyone who has been a member of a committee, board, or panel of any kind—and almost everyone has at one time or another—is familiar with the floundering, fumbling, inept manner in which most such groups operate. This results from poor group organization, from poor chairmanship, from lack of planning and clarification of the group's objectives, or from improper attitudes of the individual members of the group. Usually, a combination of these conditions exists.

The Art of Board Membership seeks to correct these situations: It prescribes the elements of a good board or committee meeting; it describes how a good chairman handles a meeting; it indicates the use of executive, special, and other sub-committees; it emphasizes the importance of proper group spirit, attitudes, and "politics." In the author's own words, this book is intended as a "manual for the committeemen, trustees, and directors."

In this small (144 pages), easy-to-read volume, Roy Sorenson brings into focus a lengthy experience plus twenty years of actual study of hundreds of boards and committees, of every type, in all parts of the country. My personal experience with the author enables me to qualify him as an "expert" in group relations and group action. His philosophy and ability in this broad field of human relations are reflected throughout this book.

It is unfortunate, however, that this excellent book bears the title "The Art of Board Membership." Many critics will probably say that this title is both inaccurate and inadequate. Thus it may be questioned whether board or committee membership is actually an "art," in the general sense of the term although the material does cover the "skill" or "knack" of such membership. Further, the subject matter is far broader than "board membership"—actually good management, sound human relations, and "group dynamics" are included. The disadvantage in this somewhat inappropriate title is that many management men, who sorely need the philosophy and technique described in this volume, will cast it aside merely because of its "label."

Much of the material in *The Art*

of Board Membership breaks new ground—a good bit covers information of which I know no other source. The clear delineation of chairman responsibilities; the specific listing of individual responsibilities of members of a group; the statements of problems and "situations" and their "antidote" and solutions—these are among the genuinely unique features of this management book.

Well-run boards and committees are democracy in action. It behooves us to see that all of our group activities of all types are as productive and as democratically efficient as possible. This book will facilitate this effectiveness and, therefore, should be part of the human-relations reading of everyone in management.

Reviewed by:

J. M. TRICKETT
Dean, School of Management

Teamwork in Cutting Costs of Materials Handling

(See page 80 for publisher and price.)

Northern California has tried a unique approach to Materials Handling problems. Meeting in six two-hour afternoon sessions and two dinner meetings, 81 corporations and government agencies pooled their ideas and experience. Theirs was a systematic effort to promote teamwork in cutting the excessive costs of handling the vast variety of commodities produced, stored and shipped through this area.

Over 190 top executives and engineers, with invited experts from large eastern centers, discussed management's obligation to cut expense in this field in terms of improved policies, investment in mechanized equipment, and labor relations.

This series was inspired in part by the startling reduction in commerce passing through the ports of the San Francisco Bay Area and nearby points. Despite the fact that it ranks high among world harbors, it handles less cargo today than during the deepest depression years of the early thirties, largely because of high cargo handling costs.

Another spark came from the National Security Industrial Association, organized to plan industrial production and transportation for the national emergency needs of the Armed Services.

The report of these unusual sessions

has been very carefully edited. Only vital, informative material of general interest and permanent value has been included.

A wide range of topics has been covered. New developments in conveyors, lift trucks, bulk handling equipment, and pallets are described. Two corporations collaborated in a national survey of disposable pallets and unit loads without pallets. Planned packaging to provide unit handling with safety was considered.

Serious attention was paid to piers, wharves, terminals and dock use of modern devices for fast, safe, economical cargo movement. Several rather revolutionary ideas are included, such as the trailer body carrying ship, rolling decks, and new prototype ships designed by the Maritime Commission.

The central theme of these papers clearly shows that real progress in materials handling economy depends on watching the spaces between the links in the moving chain connecting producers with ultimate consumers.

If factory or cannery pallet loads do not fit in with the ideas or equipment of the truck operator or the stevedoring firm, or the warehouse or the rail terminal, a heavy investment in modernization may be lost. The Navy's efforts to standardize pallet sizes, or encourage unit loads, fails to bring the expected benefits unless industry generally cooperates.

This report is sure to attract wide interest. Its findings are to be taken in hand by a San Francisco organization representing all Northern California with the hope of getting prompt action, as well as continued similar studies, from management, labor, and governmental agencies.

Reviewed by:

DR. ROY W. KELLY
Director of Institutes

Briefer Guides From The Management Library

Economic Outlook for the Pacific Coast

Pacific Coast Board of Intergovernmental Relations, San Francisco, 1950, \$1.00.

The war and post war boom brought 5 million new faces to the Pacific Coast States, thousands of new business ventures, and hundreds of new problems. This report is the second in a series of studies being made of the economy of the West Coast by the Pacific Board of Intergovernmental Relations. It tells of the important economic changes which have recently occurred in the area and some of the further changes expected during the next decade.

Reviewed by:

BERNA M. CARLSON
College Librarian

WESTERNERS AT WORK

Arizona

BEN R. COIL, former general superintendent of Miami Copper Company and Castle Dome Copper Company, at Miami, Arizona, promoted to assistant general manager of both companies. Succeeding Coil as general superintendent of both companies is **J. W. STILL**, formerly mine superintendent of Miami Copper Company. Advanced to mine superintendent is **W. F. DISTLER**, former assistant mine superintendent of Miami Copper Company.

R. W. PICKENS, general manager of the Reynolds Metals Company's Phoenix plant for the last three years, placed in charge of the firm's heavy manufacturing division, with headquarters in Richmond, Virginia. Succeeding Pickens is **GLEN P. BAKKEN**, former production superintendent at Phoenix.

JOSEPH E. CLIFFORD of Phoenix and McNary elected president of Southwest Lumber Mills, Inc., succeeding **C. J. WARREN**, resigned.

WALTER T. LUCKING, formerly with the Ohio Public Service Company, joins the Arizona Edison Company to supervise their expanding activities of five of their departments.

California



T. W. MAXWELL

tenance Co., and previous to that an independent consulting industrial engineer.

FRANK B. WRIGHT becomes vice-president of *Southern Counties Gas Company*, Los Angeles, succeeding **NORMAN R. MCKEE**, retired. Wright takes over as vice-president in charge of sales, public relations and the customer's department. **MONTE M. TEMPLE** succeeds Wright as manager of the Ventura division.

GEORGE M. DIXON, Tidewater Associated Oil Company, becomes manager of the San Francisco Airport, succeeding **B. M. DOOLIN**.

C. A. DAVIS, formerly production engineer at Los Angeles for *Richfield Oil Corporation*, transfers to *Bakersfield* as division production engineer.

Monsanto Chemical Company appoints **DONALD J. MILLER** of Springfield, Mass., manager of its new styrene plant at Long Beach, California. **JOSEPH R. MCCLESKEY, JR.**, of Longmeadow, Mass., named plant supervisor. Both men have been serving in supervisory capacities with *Monsanto's* *Plastics Division* headquarters at Springfield.

Pacific Airmotive Corporation, Burbank, announce **TOM WOLFE** has been retained by PAC to assist in its domestic and international development activities, including their rapidly expanding jet engine program. Wolfe was formerly vice-president of *Western Air Lines* and more recently, vice-president of *Pan American World Airways' Pacific-Alaska Division*.

Inglis Frozen Foods, Modesto, names **E. R. NORRIS**, formerly with *Ventura* operation of *Stokely-Honor Brand*, to post of general manager of the large frozen food operation.

W. A. SPARLING appointed general manager of *Oakland Chamber of Commerce*.



W. J. MORELAND, JR.

EDWIN L. HALL, director of the *American Gas Association Laboratories* at Cleveland and Los Angeles, appointed an assistant managing director of the association. Hall joined the AGA in May 1945 as coordinator of gas-production research and was appointed director of the laboratories in November 1947.

E. A. WOODSIDE, manager of the office staff of *United Employers, Inc.*, the East Bay employers council, appointed to the State-wide Industrial Committee of the *California State Chamber of Commerce*.

Kaiser Gypsum division of *Kaiser Industries, Inc.*, Oakland, California, appoint **JAY BARBEAU** as traffic manager of *Kaiser Gypsum*. Immediately prior to his present affiliation, Barbeau served as *San Francisco* traffic representative of the *New York, Chicago and St. Louis Railroad*.



A. MacGILLIVRAY

Personnel changes at *Columbia Steel Company*, a subsidiary of *U. S. Steel Corporation*, include: **O. L. PRINGLE** named special assistant to **ALDEN G. ROACH**, president of *Columbia*. Pringle remains vice-president and director; **MARCUS J. AURELIUS**, formerly

W. J. MORELAND, JR., former executive vice-president of *Conrac, Inc.*, Glendora, Calif., elected president of the television set manufacturing firm, succeeding **E. Z. WALTERS**, who becomes chairman.

vice-president of another subsidiary. *U. S. Steel Supply Company* at Chicago, succeeds **Pringle** as vice-president, sales.

A. RUSSELL WRIGHT named sales manager of *Robinson Fan Corporation*, Gilroy, California, succeeding **M. R. ROBINSON**, resigned.

WILLIAM K. ZINSZER named general manager of *Stockton Brick and Tile Company*, Stockton, California.

LAURANCE H. COOPER, vice-president and general manager of *Pacific Airmotive Corporation*, takes an indefinite leave of absence on account of ill health. In Cooper's absence, the management of the company will continue to be conducted under the supervision of **ARTHUR C. STEWART**, chairman of the board.

ROBERT B. DIEMER promoted to newly created office of assistant general manager and chief engineer of *Metropolitan Water District of Southern California*. **ROBERT M. PEABODY**, senior mechanical engineer, named chief electrical engineer, succeeding **JAMES M. GAYLORD**, retired.

A. K. TICHENOR resigns as president of *Alaska Packers Association*, succeeded by **AUBIN R. BARTHOLOMEW**, former vice-president and general superintendent. **RALPH S. OLFIN** elected to newly created position of controller.



R. G. RIEGEL

Kaiser Steel Corporation, Fontana, appoints **ROBERT G. RIEGEL** superintendent of its new *Electric Weld Pipe Mill*. Riegel was formerly general foreman for *Republic Steel Corporation*, Youngstown, Ohio, before accepting his present assignment.

ROBERT W. SANDERS appointed chief radio and television engineer at the Los Angeles plant of the *Hoffman Radio Corporation*, and **JOSEPH MCGEE, C.P.A.**, formerly with *Alexander Grant & Co.*, Los Angeles public accountants, named to the post of controller of the *Hoffman Radio Corporation*.

Personnel changes at *Southern California Edison Company* include: **GEORGE N. HAWLEY**, sales manager, named assistant to the president; **JOHN H. MEAD**, Long Beach district manager, named assistant vice-president, commercial department; **HENRY C. RICE**, manager of domestic sales, succeeds **Hawley** as sales manager, and **JOHN H. ADAMS** succeeds **Rice**, with the title of director of domestic load development; **CHARLES M. CAMPBELL**, manager of *Santa Monica*, succeeds **Mead** at Long Beach; **HALE N. KAMP**, assistant district manager at *Santa Monica*, becomes district manager there.

FRED JACOBSON, assistant general manager of the *Sacramento Chamber of Commerce*, appointed manager of the *Central Coast District of the California State Chamber of Commerce*. Jacobson is current president of the *California Association of Chamber of*

Commerce Managers, Inc., and has been connected with the Sacramento Chamber for the past five years. The State Chamber's Central Coast district maintains headquarters in San Francisco.

Golden State Company, Ltd., appoint **TED HIGGINS** as manager of its San Diego district. He formerly held the position of assistant to the branch manager at Sacramento. **DR. J. J. FREY** appointed east bay district manager for the company, with headquarters in Oakland.

VIRGIL E. NEELEY, San Francisco, named plant superintendent of Terra Bella Olive Association, the latter having taken over the equipment of the former Southern Tulare Olive Marketing Association.

ADRIEN J. FALK, San Francisco, president of S & W Fine Foods, Inc., elected president of the California State Chamber of Commerce, succeeding **JAMES E. SHELTON**, Los Angeles. Also elected are the following: **NEIL PETREE**, Los Angeles, Barker Bros. Corp., first vice-president; **ALDEN C. ROACH**, Columbia Steel Co., second vice-president; **STUART O'MELVENY**, Los Angeles, Title Insurance & Trust Co., third vice-president; **JAMES E. SHELTON**, Security-First National Bank of Los Angeles, treasurer; and **JAMES MUSATTI**, Palo Alto, general manager.

C. L. SMART, former secretary-treasurer of California Cold Rolled Steel Corporation, Los Angeles, elected vice-president. **A. WAYCOTT** and **DONALD E. TAYLOR** join the sales department of the organization.

RONALD HAUGHTON, assistant director, institute of industrial relations, University of California, chosen as impartial umpire for

Ford Motor Company-U.A.W. pension agreement.

FRED HARTKER transferred from industrial relations department of Fisher Body's Van Nuys plant, to Oakland plant as public relations director.

CARL E. JOHNSON named chairman of the board of Sterling Electric Motors, Inc., Los Angeles, being replaced in the firm's presidency by **EARL MENDENHALL**.

FRANK BRUCE HARMAN, after completing 52 years' employment with the Santa Fe Railroad, San Bernardino, California, retires as shop superintendent. Succeeding him is **H. V. GILL**, former superintendent of shops at Barstow. **VERNON LYLE MARLO**, former supervisor of diesel engines at Chicago, succeeds Gill at Barstow.

JOHN D. FREDERICKS elected president and director of Pacific Clay Products, succeeding the late **ROY LACY**. Fredericks has been associated with Pacific Clay Products for the past 25 years, serving as attorney, assistant secretary, general counsel, and more recently vice-president.

K. H. CRANDALL elected vice-president of Standard Oil Company of California.

United Employers, Inc., East Bay Employers Council, appoints **FRED CUTTER**, vice-president of Cutter Laboratories, Berkeley, president, succeeding **R. C. THUMANN**. **HYLAND HINMAN**, vice-president and Oakland branch manager of the Haslett Warehouse Company named vice-president. **E. A. WOODSIDE** re-appointed secretary-treasurer of the Board of Directors, and **J. PAUL ST. SURE** continues as counsel.

M. W. KIBRE, 831 E. Philadelphia Street, Whittier, appointed manager of the Gas Department, General Petroleum Corporation, Los Angeles, succeeding **H. L. EGGLESTON**, resigned.

W. R. BOWLER, former manager of De Sabla Division of Pacific Gas & Electric Company, named manager of Colgate Division, succeeding **E. C. JOHNSON**, retired. **GEORGE L. WORKS**, formerly Humboldt division manager, succeeds Bowler.

GORDON L. EDWARDS, vice-president and treasurer of United States Steel Corporation retires after more than fifty years of service with the company and one of its predecessor companies, the National Tube Company.

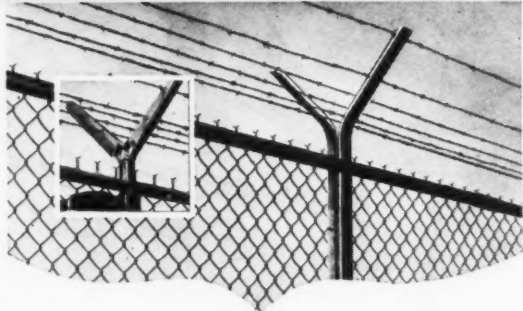


R. J. CANNON
and **JOHN B. MILLIKEN**, secretary.

ROBERT J. CANNON elected president and treasurer of Cannon Electric Development Company, Los Angeles, succeeding the late **JAMES H. CANNON**, former president and founder of the business. Other officers elected are **RICHARD L. ROWEN**, vice-president and production manager,

Staff changes at Solar Aircraft Company, San Diego, Contract Administration Division, include: **CY OBERG**, formerly assistant manager of the Des Moines plant, returns to San Diego to take charge of the company's Aircraft Products Division. **CLARK HICKERSON** named assistant manager of this

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Division. Taking over Hickerson's work at Solar's Los Angeles office is GRANT STONE, formerly manager of the New York office.

RICHARD M. GNAGY, chemical engineer, Alhambra, California, joins the staff of the Division of Industrial Research. Gnagy will devote his full time to research on problems connected with industrial air pollution, working with chemists DONALD F. ADAMS and DELBERT J. MAYHEW on this project.



C. W. FROELICH

ROBERT W. MANEY named plant manager of the Los Angeles factory of Goodyear Tire & Rubber Company, succeeding FRANK A. STEELE, retired. Maney was formerly in charge of Plant 2 tire division in Akron, Ohio, for the company.

THEODORE MERRILL joins Geo. C. McNutt, Advertising, Oakland, as copywriter and account man. Merrill was formerly with Kaiser Services.

Marking the centralization of its purchasing department, Masonite Corporation, 221 North LaSalle Street, Chicago 1, Illinois, appoints DONALD J. GRAY of Chicago as pur-

chasing agent. He will direct the purchases for the corporation and its plants in Chicago, Laurel, Miss., and Ukiah, California.

Colorado

ROLLIN J. KENNARD promoted to mechanical superintendent of Anaconda Copper Mining Company's Great Falls reduction works, Montana, and the Conda, Idaho, works, leaving a similar position at Butte. JAMES W. PORTER succeeds Kennard.

Western Pine Association names JESSE F. PRESLEY field representative in Texas, Oklahoma and eastern New Mexico.

New Mexico

HORACE HUDSON of Clovis named town plant manager of Southern Union Gas Co. at Albuquerque.

Oregon

CHARLES W. FOX elected president of Cascades Plywood Corporation, Portland. Other officers include: B. V. HANCOCK, executive vice-president; A. E. ANDERSON, vice-president; K. E. ROSS, treasurer; PAUL L. BOLEY, secretary and assistant treasurer, and ELVIRA WANEZEK, assistant treasurer and assistant secretary.

J. O. JULSON named to succeed MARVIN C. JONES as manager of container board plant of Weyerhaeuser Timber Company at Springfield, Oregon. Julson formerly was general manager of pulp and paper operations of Diamond Match Co., Plattsburg, N. Y.

L. C. HANSEN, manager of the Grants Pass Chamber of Commerce, becomes president

of the Oregon Chamber Executives, succeeding WALTER UNDERWOOD. LEW GARBUTT of Springfield elected vice-president, succeeding E. M. KILLION who left recently to become manager of the Albuquerque, New Mexico, Chamber of Commerce.

Utah

Salt Lake Refining Co. appoints L. P. MORRIS to the newly-created position of assistant superintendent. Morris joined the organization as an operating representative, from which he was promoted to the new position.

ROBERT RUSSELL elected vice-president of Westinghouse Electric International Co. Russell is a former Utahn.



R. E. HOAGLAND

RICHARD E. HOAGLAND appointed vice-president and assistant general manager of Utah Fuel Company at Salt Lake City. Prior to this appointment, Hoagland served as manager of by-product sales for Kaiser Steel Corporation with headquarters in Los Angeles, and directed the marketing of the great variety of coal by-products produced at the Kaiser Steel Mills, Fontana, California. Hoagland will maintain headquarters in the offices of Utah Fuel Company in the Judge Building.

ARDEN E. DRESSER, Salt Lake City, is newly elected treasurer of Boise-Payette Lumber Company. Other officers re-elected

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PACIFIC COAST GAS ASSOCIATION

WESTERN INDUSTRY—July, 1950

include NORTON CLAPP, Seattle, Washington, president; C. W. GAMBLE, Boise, executive vice-president; J. L. JEREMIASSEN, Boise (formerly of Salt Lake) vice-president; A. O. SHELTON, Salt Lake, vice-president; GEORGE R. LITTLE, Winona, Minn., secretary; A. E. MONTGOMERY, assistant secretary; E. A. AITCHISON, Boise, comptroller, assistant secretary and assistant treasurer. JOHN L. ARAM, Boise, elevated to a vice-presidency.

American Smelting and Refining Co. names R. C. COLE assistant manager of the ore buying division, New York City. Cole formerly was assistant manager of the Utah department. C. R. FISH, assistant ore buyer for the department, succeeds Cole. R. L. JOURDAN, former assistant manager of the Utah department, named ore buyer for the company.



L. J. WESTHAVER

LOREN J. WESTHAVER, manager of operations of Geneva Steel Company and Columbia Iron Mining Company, Utah subsidiaries of United States Steel Corporation, elected director and vice-president of the two companies, succeeding R. G. GLASS, retired.

JOHN T. BREWSTER, formerly of San Francisco, California, named assistant superintendent of the Salt Lake Refining Company.

Formerly branch manager at Pocatello, ROBERT J. COX returns to the Salt Lake City

office of Morrison-Merrill and Co. as general manager. In addition to being in charge of the main plant at Salt Lake City, Cox will have general supervision of company warehouses at Pocatello, Twin Falls and Boise, Idaho, and Reno, Nevada.

WALTER M. HORNE, former assistant manager of Utah Mining Association, named acting manager. JAMES K. RICHARDSON, manager, leaves the association to become industrial engineer, Western operating division, Kennecott Copper Corp.

C. B. VERNON, comptroller of Geneva Steel Co., Utah subsidiary of United States Steel, appointed assistant comptroller of United States Steel Corporation.

R. C. OLIVER appointed manager of mines for the Utah Fuel Company. Oliver joined the Utah Fuel organization in 1949 when the Oliver Coal Co. properties in Colorado were acquired by the Utah Fuel Co. and placed under operational direction of the Calumet Fuel Co., at Somerset, Colorado. Since that time until the acquisition of the Utah Fuel holdings by the Henry J. Kaiser interests, Oliver has been operations manager of the Calumet Fuel Co. He will headquarter in Salt Lake City.

Washington

H. W. McCLARY named general manager of Anacortes Veneer, Inc., Anacortes, Washington, succeeding F. L. JOHNSON. McClary was formerly manager of Washington Veneer Company.

DR. GERALD A. ROSSELOT, director of the Engineering Experiment Station at the Georgia Institute of Technology, elected

chairman of the Engineering College Research Council which met in Seattle as part of the convention of the American Society for Engineering Education at the University of Washington.

K. A. ANDREW appointed Control Specialist for the General Electric Company's Apparatus Department in the Northwest district, with headquarters in Seattle.

Secretary of the Interior CHAPMAN appoints RICHARD F. SHUMAN supervisor of fishery management in Alaska. Shuman will be stationed at Juneau.

A. F. LOGAN, director of industrial relations of Boeing Airplane Co., elected vice-president industrial relations.

H. G. SUTLIFF, Minneapolis, named manager of the Phillips Petroleum company's Inland Empire division, succeeding GILBERT D. MOYLE, retired.

At the annual meeting of stockholders of the Puget Sound Pulp & Timber Co., former president FRED G. STEVENOT elected chairman of the board; LAWSON P. TURCOTTE, formerly executive vice-president, elected president; and general superintendent ERIK EKOLM advanced to vice-president in charge of operations.

STANLEY B. WHITE placed in charge of Kaiser's large aluminum rolling mill at Trentwood, succeeding JOHN R. MEEK, resigned.

Boeing Airplane Company, Seattle, appoints JAY MORRISON manager, gas turbine project; S. D. HAGE becomes chief product engineer for the turbine's further development.



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Western TRADE WINDS

News about those who distribute and sell industrial equipment and materials



T. H. TREDWELL, JR.

TIMOTHY H. TREDWELL, JR., transfers from the *Chicago Bridge & Iron Company's* general sales office in Chicago to its Los Angeles sales office located in the General Petroleum Building at 612 Flower Street. Tredwell will assist DEAN E. STEPHAN, manager, and LUCIAN J. HARRIS.

Personnel changes in the Western division of *Monsanto Chemical Company* include the following: EDWARD A. SCHULER of San Francisco, California, named general sales manager, and LEO EILERTSEN becomes assistant to the general manager of the Western division.

Consolidated Metals Corporation and *Wes-Ko Distributors, Inc.*, move to their new office and warehouse at 6057 W. Adams Boulevard, Los Angeles 34, California, from 2619-2625 So. Santa Fe Avenue, Los Angeles 58.

The Tagliabue Instruments Division of the *Weston Electrical Instrument Corporation* appoints the following Western district sales representatives who are now, in addition, handling the Tag line: E. F. Schimbor, Herman E. Held, San Francisco; Edward S. Sievers, Los Angeles; and Eicher & Co., Seattle. In the Colorado territory, the *Peterson Company* of Denver handle sales of chemical and industrial thermometers, hydrometers and moisture meters; while *Burson Sales, Inc.*, also of Denver, handle Celec-ray pyrometers and the mechanical line of Tag temperature and pressure indicating, recording and controlling instruments and dial indicating thermometers.

The Gumout Division of *Pennsylvania Refining Company*, 2686 Lisbon Road, Cleveland 4, Ohio, appoint *Dirks and Company*, 416 N.W. 14th Street, Portland 9, Oregon, its sales representatives for Washington, Oregon and Idaho.

Personnel changes at *Allis-Chalmers'* Western offices include: U. E. SANDELIN named Portland district manager, and STEPHEN C. BACON, district manager for Seattle. GILMAN Y. MURRAY assigned to Allis-Chalmers' Los Angeles district office as sales representative specializing in basic industries' products.

LEO HOBAN named sales manager of the Kerrick Steam Kleaner Division of the *Clayton Manufacturing Company* at El Monte, California. Hoban was promoted from the position of supervisor of Field Sales to his new position.

Signode Steel Strapping Company names HARRY HOFFMAN, sales engineer, to head a newly-created sales territory in Arizona, New Mexico and Nevada. Hoffman may be reached in his territory at 458 Knox Drive,

Tucson, Arizona, or through the Los Angeles office at 659 E. Gage Avenue.

Raybestos-Manhattan, Inc. appoints *Degen-Fiege Company* distributor of their industrial rubber products in line with their expansion program. Degen-Fiege's modern and complete facilities at 1733 E. 15th Street, Los Angeles, will be further augmented by R/M's local warehouse stocks.

CARL LEROY HALE, former sales representative for *Lyon Metal Products, Inc.*, Los Angeles, moves to San Francisco in charge of that area, with headquarters at 870 Market Street.

The *Murry Jacobs Co.*, Seattle, Washington, named distributors for *Thomas Truck & Caster Company*. Their territory will include Washington and northern Idaho.



P. C. VAN CLEAVE

United States Steel Supply Company, a subsidiary of U. S. Steel Corp., names PAUL C. VAN CLEAVE vice-president, sales, and also a director. Van Cleave was formerly district manager of the Los Angeles warehouse of the supply company, and is succeeded by FREDERICK L. BRUCKNER.

J. E. TEMPLETON, manager of the Los Angeles branch of *P. R. Mallory & Co., Inc.*, named manager of the company's wholesale division, succeeding WALTER HARVEY. CHARLES GUTHEIL takes over Templeton's post in Los Angeles.

Bearing representatives of the Western Zone sales force of *Harold R. Swanton, Inc.*, recently attended the Aetna Ball and Roller Bearing Company sales conference in Chicago. From l. to r. WILLIAM A. WOOD, president, *Aetna Ball & Roller Bearing Co.*, Chicago; HAROLD R. SWANTON, president, *Harold R. Swanton, Inc.*, Los Angeles, San Francisco, Seattle; R. M. ANDERSON, B. E. KOMP, and H. E. MILLER of *Harold R. Swanton, Inc.*; and J. J. ROZNER, chief engineer-plant manager, *Aetna Ball & Roller Bearing Co.*, Chicago.



Manuel T. Fine & Company, Los Angeles, mill and warehouse distributors of aluminum, steel, brass, copper, etc., announce their appointment as exclusive distributors in southern California for *New Haven Copper Company* of Seymour, Connecticut, and in the State of California for the *Bristol Brass Corporation* of Bristol, Conn. These appointments bring for the first time to California industry a local source of supply for the products produced by these mills.

The *Haskel Engineering and Supply Company* opens an office and warehouse in northern California at 1245 22nd Street, San Francisco 7, California. They are distributors for *Linear Incorporated* packings and molded seals, Miller air and hydraulic cylinders, Simplex Engineering "Seco" hydraulic pumps and valves and Adel hydraulic pumps and valves, as well as other nationally known hydraulic items. EDWIN C. OSBORN, a partner in the firm, will manage the operation.

Nelson Stud Welding Division of *Morton Gregory Corporation* announces appointment of *Pittsburgh-Des Moines Steel Company*, with local offices on the Santa Clara-Alviso Road, Santa Clara, California, as an approved applicator for the Nelson stud welding method of installing corrugated steel and protected metal roofing and siding. The franchise issued covers the southern San Francisco Bay region.

WALTER LANDWEER named sales manager, wrapping paper department, by *Blake, Moffitt & Towne*, Seattle, succeeding the late D. AUBREY HALGREN.

United States Steel Corporation appoints ROBERT H. MADDEN, JR., manager of sales, manufacturing accounts, and JOHN S. THOMPSON, manager of sales, merchant trade accounts.

Gerald B. Miller Co., Hollywood engineering representatives, move from 1050 Havenhurst Drive to larger quarters in suite 105-7, Highland Arcade Bldg., 1540 N. Highland Avenue, Hollywood 28, California. The Miller Co. is appointed West Coast representative by *Brush Development Co.*, Cleveland, Ohio, who represent Bruel & Kjaer, Naerum, Denmark, in the United States, to handle level recorders and accessories, frequency response tracer, deviation test bridge and heterodyne voltmeters.

Dearborn Chemical Company, 807-815 Mateo Street, Los Angeles 21, California, adds **TOM BULL** to its sales staff. Bull will cover San Francisco and northern California, including the marine industry. He will operate out of Dearborn's San Francisco office.

The Electric Products Company, 1725 Clarkstone Road, Cleveland 12, Ohio, appoints the **Muth-Richards Company** as their representatives in the State of Washington and the panhandle of Idaho. With offices in Seattle, Washington, the Muth-Richards Company will handle all the industrial lines of The Electric Products Company: battery chargers; electrolytic motor-generators; general-purpose motor-generators; frequency changers; induction, direct-current and synchronous motors; and direct-current and synchronous generators.

The E. C. Griffin Company, Seattle, opens a branch in Portland at 400 N. Sumner, with **NORMAN F. SWANSON** in charge. The Portland branch will handle all lines with the exception of Galland-Henning Mfg. Co. The company has also been appointed distributors for Howard Foundry Co.

Drake Steel Supply Co., Los Angeles, elects **F. BURNEY** assistant vice-president, and **R. E. WARE**, treasurer.



Cedergreen Frozen Pack Corporation, frozen foods division of Pacific American Fisheries, Inc., Bellingham, Washington, names **JOHN WALKER** general sales manager.

General Petroleum Corporation names **C. L. KING**, 1115 E. Palma Vista Avenue, San Gabriel, California, assistant manager of advertising and sales promotion. King formerly was district sales manager of the Los Angeles district.

GEORGE H. WEST appointed director of advertising and public relations and a member of the executive staff of **Consolidated Engineering Corp.**, Pasadena.

GORDON S. SCHUHMACHER appointed district manager in Los Angeles for **Hagan Corporation**, succeeding **R. L. SULLIVAN**, resigned. He will be assisted by **JOSEPH R. SHAFER**.



Officers and Directors of the **MATERIAL HANDLING ASSOCIATION OF SOUTHERN CALIFORNIA** for 1950-1951 are from left to right: **Stanley E. Morris**, **Stanley E. Morris Co.**, retiring president; **J. Alden Lane**, **Snyder Engineering Co.**, president; **Otto E. Holler**, **Faultless Caster Corp.**, director; **J. E. Badgley**, district manager, **Western Industry Magazine**, secretary-treasurer; **Vincent J. Pence**, district manager, **Mailler Searles, Inc.**, chairman, board of directors.

San Francisco sales office of Chicago Bridge & Iron Company moves from 22 Battery Street to room 617, 200 Bush Street. Telephone EXbrook 2-8936. **L. A. ELSNER** is manager of the company's San Francisco office, assisted by **K. W. LANGE**, contracting engineer.

CHARLES E. DUCOMMUN, formerly vice-president and treasurer, elected president of **Ducommun Metals & Supply Co.**, succeeding **EDMOND F. DUCOMMUN**, retired. **ELMER R. WALL** elected treasurer and director, and **ALAN N. DUCOMMUN** elected secretary.

GORDON S. SCHUHMACHER appointed district manager in Los Angeles for **Hagan Corporation**, Pittsburgh combustion and chemical engineering firm, and its subsidiaries, **Calgon, Inc.**, **Hall Laboratories, Inc.**, and **The Buromin Company**, succeeding **R. L. SULLIVAN**, resigned. **JOSEPH R. SHAFER** named **Schuhmacher's** assistant.

Kaiser Gypsum division of Kaiser Industries, Inc., 1924 Broadway, Oakland, California, appoints **SIDNEY J. SMITH** manager of wallboard and accessory sales. Smith's new duties will make him responsible for sales of these products throughout the company's entire marketing area.

Home Appliance Division of The Murray Corporation of America appoints four California distributors to handle the new Murray line of porcelain steel bathroom fixtures. The new distributors are the **Long Beach Pipe & Supply Company**; **San Bernardino Pipe & Supply Company**; **San Diego Pipe & Supply Company**, and **Santa Monica Pipe & Supply Company**.

C. H. MCINTYRE named as salesman to represent **The Republic Supply Company** in the Sacramento area, working directly out of the Oakland headquarters. Previous to this assignment, McIntyre served as a salesman in the Bakersfield territory.

Eutectic Welding Alloys Corporation, 40 Worth Street, New York 13, appoints **DON RASMUSSEN** its Western sales supervisor.

Refrigeration Engineering, Inc., 7250 E. Slauson Avenue, Los Angeles 22, announces appointment of **Refrigerating & Power Specialties Company**, with headquarters in San Francisco, to handle the distribution of Recold commercial refrigeration and air conditioning equipment in Oregon and Washington. Refrigerating & Power Specialties Company will now act as exclusive Recold distributors in the Northwest, replacing **Refrigerative Supply, Inc.**, who have handled the Recold line for several years. Supervision of their branches is as follows: **WALTER SONNENBERG**, manager of the Portland branch; **BURT POWERS**, in charge of operations in Tacoma; and **DON BAILEY** will direct activities of the Seattle office.

Goss & Goss of San Francisco, manufacturers of putty and caulking compounds, open a branch plant in Portland to serve the market for their products in the Pacific Northwest.

Dings Magnetic Separator Company appoints **E. D. SAMPSON** of the **Sampson Sales Company**, 420 Market Street, San Francisco 3, as its exclusive sales agent in northern California. Sampson's territory covers all of California north of the counties of San Luis

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Obispo, Kern and San Bernardino. In southern California, A. W. NASH, 3312 W. Vernon Avenue, Los Angeles, named exclusive sales agent. Nash's territory will include the area of California south of and including the three counties listed above.

Chain Belt Company, 1600 W. Bruce St., Milwaukee 4, Wisconsin, appoint **Union Supply Company**, 1920 Market Street, Denver, Colorado, distributor for the merchandise products of the Chain and Transmission, Baldwin-Duckworth, and the Conveyor and Process Equipment divisions of the company.



S. B. BIDDLE, JR.

Leeds & Northrup Company, Philadelphia manufacturer of electrical measuring instruments, automatic controls and heat-treating furnaces, names **STRAFORD B. BIDDLE, JR.** head of the new sales and service office recently opened in Seattle, Washington, at 603 Stewart Street. **IRA F. OMWAKE, JR.** also joins the company in the Seattle office, which is equipped to service Washington, Oregon, Idaho and British Columbia.

Lisle & Leif Company of Los Angeles, distributors for Aro Equipment Corp., appoint **Republic Supply Company**, Los Angeles, jobbers for their industrial pneumatic tools. The Republic Supply Company will

cover the southern California territory. **Lisle & Leif Company** are distributors for the Aro Equipment Company in California, Oregon, Washington, Nevada and Idaho.

Sylvania Electric Products, Inc., opens a new service center in southern California at 2936 E. 46th Street, Los Angeles 58. Phone LOgan 5-8121.

Arthur Forsyth Company, Seattle, Washington, appoints **C. C. BROWN** salesman for the Tacoma area, with headquarters in Seattle.

M. E. RUNNER, Pacific Coast Industrial Manager for **Dayton Rubber Company**, Dayton, Ohio, with offices in Los Angeles, appointed regional manager. He will have jurisdiction over the eleven Western States and continue to headquarter in Los Angeles at the company offices at 909 E. Slau-son Avenue.

C. E. KEAS, district manager of **Penn Metal Company, Inc.**, with offices at 816 W. 5th Street, Los Angeles, recently attended a general sales meeting at the company's plant at Parkersburg, West Virginia.

Stanley Works, manufacturers of steel strapping and accessories, appoint **E. C. Buchrer Company**, 527 Folsom Street, San Francisco representative.

The **Currier Company**, with main offices at 205 - 12th Street, Oakland, California, named representative of **The Fostoria Pressed Steel Corporation** on Infra-red Evenray equipment in the eleven Western states, as

well as Alaska and Hawaii. Officers of the company include **FARNSWORTH CURRIER**, president and general manager, and **W. A. VENSEL**, vice-president and Los Angeles division manager. Sales engineering offices are located at Oakland, Los Angeles, Olympia, Spokane, Salt Lake City, Denver, and Phoenix.



R. L. HOWERTON

Hyster Company, P.O. Box 4318, Portland 8, Oregon, manufacturers of auxiliary tractor tools and industrial trucks, names **RAYMOND L. HOWERTON** manager of tractor equipment promotion.

The 6th annual **Pacific Electronic Exhibit** opening at Long Beach, California, September 13th for a three-day run, will be both a business and an engineering conference. In addition to booths displaying electronic items, there will be provision for conferences of both business leaders and electronic engineers.

Dodier-Graham-Eastman, industrial advertising agency located in Los Angeles, celebrates their 25th anniversary.

Air-Mack Equipment Company of Seattle appoint **R. R. ANDERSON** as resident salesman in Idaho. Anderson will make his head-

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quarters in Boise and will handle all lines distributed by his firm. Other personnel changes include CHAS. H. ESCH named salesman for Seattle, Washington, and eastern Washington. Each will specialize in construction equipment and will headquarter in Seattle.

The **F. J. Stokes Machine Company**, manufacturers of automatic and semi-automatic molding presses, plunger presses and pharmaceutical machines, with San Francisco offices at 973 Market Street, open a branch office at 808 B Avenue, La Grande, Oregon.



W. R. KERN

Winslow Engineering Company, Oakland, Calif., manufacturers of Winslow filters and elements, appoints **W. RAY KERN** sales manager. Kern resigned as vice-president and general manager of Berglund Tractor and Equipment Co. in order to join the Winslow organization.

UARCO Incorporated, manufacturer of business forms, Western Division promotes **C. MARSHALL FISH** as division sales manager. He formerly was district manager at Los Angeles and will now headquarter in UARCO's Oakland plant offices located at 1255 Park Avenue. Succeeding Fish as district sales manager in Los Angeles is **DALE R. SANDRO**, who formerly held a similar position with the company in Seattle. Portland

has been chosen as the new headquarters city, under the managership of **PAUL T. BLODGETT**, for many years a UARCO salesman in that city. The Denver area is to be reorganized as a district in its own right with **S. ALLAN JOHNSON**, formerly San Francisco office manager, named district manager with headquarters in Denver.

V. H. DIETERICH, vice-president and director of **Joseph T. Ryerson & Son, Inc.**, Chicago, steel warehousing concern, retires after more than 45 years' service with the company. The Ryerson company operates steel service plants in Los Angeles and San Francisco which serve industry on the West Coast.



P. Q. WRAY

PARK Q. WRAY, manager of the replacement sales division of **National Motor Bearing Co., Inc.**, advances to the company's key sales post as director of sales for NMB and its two subsidiaries, **Arrowhead Rubber Company**, Downey, California, and **National Seal Company**, Van Wert, Ohio, with headquarters in Redwood City, California. **E. F. RIESING**, veteran sales executive of the automotive parts division of **Firestone Tire and Rubber Company**, appointed sales manager of the Industrial Division; and **PARK WRAY, JR.** in charge of the northern California sales territory of the replacement division, promoted to sales manager of that division.

J. BLAINE EUSTICE resigns his position as Project Engineer with the **Aircraft Engineering and Maintenance Co.**, a Transocean Airlines subsidiary, and opens a sales and service representation company at 2166 Market Street, San Francisco. The company will be known as **LESCO** and will cover the San Francisco Bay area and northern California in the aviation, automotive and industrial fields.



D. STEVENS

Dillon Stevens & Company, 144 North Larchmont Boulevard, Los Angeles, Calif., appointed **Pacific Coast representatives for Utica Drop Forge & Tool Corporation**, 2415 Whitesboro, Utica 4, New York.

GEORGE WARDEN buys the **Jack J. Kolberg Co.**, Seattle, Washington, and will retain most of the lines formerly distributed by Kolberg. Kolberg has accepted the distributorship of **Hanson Manufacturing Co.** in upper New York State.

Spencer & Morris Division of the Whiting Corporation, Los Angeles, announce the termination as of May 1, 1950 of their contract with **West Coast Foundry Equipment Company**, for distribution of its **Trambeam** products in the State of California. **Trambeam** sales will now be handled by **Whiting sales personnel** through their factory in Los Angeles. Southern California



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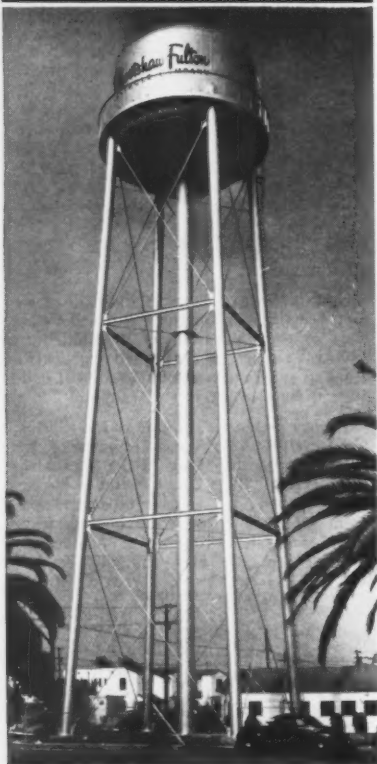
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CLEVELAND 15.....2256 Guildhall Bldg.
DETROIT 26.....1567 Lafayette Bldg.
HOUSTON 2.....2164 National Standard Bldg.
LOS ANGELES 14.....1570 General Petroleum Bldg.
NEW YORK 6.....1334-165 Broadway Bldg.
PHILADELPHIA 3.....1666-1700 Walnut St. Bldg.
SALT LAKE CITY 4.....568 West 17th South St.
SAN FRANCISCO 4.....1578-200 Bush St.
SEATTLE 1.....1369 Henry Bldg.
TULSA 3.....1667 Hunt Bldg.

representation will be by JACK PARK and J. P. DAIGH. Northern California representation by WALTER DANKAS in San Francisco. Overall direction of Trambeam sales will be headed by C. J. MAYO, with headquarters in Los Angeles. Dealer and distributor representation will be continued at Portland, Oregon; Seattle, Washington; Salt Lake City, Utah; Denver, Colorado; Phoenix, Arizona, and El Paso, Texas.

Associations Elect

AMERICAN SOCIETY OF TOOL ENGINEERS, INC., San Francisco-Oakland: Chairman, Al Minetti, Harron, Richard & McCone Co.; 1st vice-chairman, Ben Berlien, Industrial Steel Treating Co.; 2nd vice-chairman, Ted Rohrer, Pratt & Whitney; secretary, Dave Gustafson, Grove Regulator Co.; and treasurer, Paul Pick, Warren J. McRae Co. Seattle Chapter: Chairman, J. C. Smith, Hallidie Machinery Company; 1st vice-chairman, F. L. Coenen, Boeing Airplane Co. Portland Chapter: Chairman, C. A. Magee, Magee Machine & Eng. Co.; 1st vice-chairman, D. K. Child, Scientific Research Co. Denver Chapter: Chairman, W. G. AxteLL, Shwyder Bros., Inc.; 1st vice-chairman, G. M. Phillips, Standard Engineering & Mfg. Co. Long Beach Chapter: Chairman, J. H. Stansbury, Douglas Aircraft Co., Inc.; 1st vice-chairman, G. V. Wilkinson, Douglas Aircraft Co., Inc. Salt Lake City Chapter: Chairman, L. C. Seager, The EIMCO Corp., 1st vice-chairman, H. J. Todd, Mine & Smelter Supply Co.

ASSOCIATION OF WASHINGTON INDUSTRIES, Seattle: L. W. Eilertsen, Seattle Chemical Company, president; Raymond J. Huff, Seattle, G. E. Karlen, Tacoma, Neal R. Fosseen, Spokane, John M. Bloxom, Yakima, J. B. Power, Vancouver, Wash., and Ralph M. Roberg, Bellingham, vice-presidents; E. T. Clark, Seattle, treasurer; Frank West, Seattle, re-elected finance chairman; and Ed Davis, Olympia, re-elected secretary.

UTAH FROZEN FOOD LOCKER ASSOCIATION: President, C. Earl Alsop, Salt Lake City, succeeding B. M. Anderson, Layton; vice-president, M. J. Richards, Brigham City; treasurer, Ray D. Free, Salt Lake City.

PURCHASING AGENTS' ASSOCIATION OF NORTHERN CALIFORNIA, INC.: H. W. Christensen, Columbia Steel Co., president for the year beginning July 1, 1950.

SOUTHERN CALIFORNIA CHAPTER, AMERICAN FOUNDRYMAN'S SOCIETY: President, John E. Wilson, Climax Molybdenum Co.; vice-president, Henry Howell, Howell Foundry Co.; secretary, Harold Pagenkopp, Angelus Pattern Works; treasurer, A. L. Goodreau, G. B. Brass and Aluminum Foundry.

PACIFIC COAST CHAPTER OF THE SOCIETY OF INDUSTRIAL DESIGNERS: Hunt Lewis, Myers-Lewis, Pasadena, chairman; William F. H. Purcell, Henry Dreyfuss organization, Pasadena, secretary; and Frederick K. Storm, Jr., Los Angeles, treasurer.

NORTHWEST MINING ASSOCIATION: Harold J. Hull, Nabob Silver-Lead Company, president, and E. C. Stephens, Anaconda Copper Company, Spokane, vice-president.

Claude E. Monlux, vice-president of Linde Air Products Co., New York, elected president of INTERNATIONAL ACETYLENE ASSOCIATION at that organization's annual business meeting held last month in San Francisco. Monlux is a native Westerner who, until 1935, was associated with industry in the West in executive capacity.

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INDEX TO ADVERTISERS IN THIS ISSUE

A		M	
Acme Steel Company.....	51	Meriam Instrument Company, The.....	64
Aetna Ball and Roller Bearing Company.....	65	N	
Alan Wood Steel Company.....	53	National Screw & Mfg. Co. of Calif.....	17
Aluminum Company of America.....	9	National Supply Co., The.....	22
American Appraisal Company.....	79	O	
American Brass Company, The.....	11	Oakite Products, Inc.....	74
Anaconda Copper Mining Co. & Subs.....	11	P	
Appleton Electric Company.....	21	Pacific Coast Gas Assn.....	74
B		Pacific Gas & Electric Company.....	10
Bay State Abrasive Products Co.....	7	Pacific Telephone & Telegraph Co.....	62
Boston Woven Hose & Rubber Company.....	4	Pioneer Rubber Mills.....	20
Buschman, E. W., Co., The.....	70	R	
Butler Manufacturing Company.....	18	Revere Copper & Brass, Inc.....	47
C		Ridge Tool Company.....	60
California Barrel Co., Ltd.....	2nd cover	Robbins & Meyers, Hoist & Crane Corporation.....	57
California Spring Co., Inc.....	52	Russell, Burdsall & Ward Bolt & Nut Company.....	3
California-Western States Life Insurance Company.....	8	Ryerson, Joseph T., & Son, Inc.....	30
Central Scientific Company of California.....	70	S	
Chicago Bridge & Iron Company.....	80	Shell Oil Company, Inc.....	26
Clayton Manufacturing Co.....	56	Shepard Niles Crane & Hoist Corporation.....	58
Clipper Belt Lacer Co.....	73	Smoot-Holman Co.....	78
Cold Metal Products Co., The.....	3rd cover	Stephens-Adamson Mfg. Co.....	4th cover
Coldwell, Banker & Company.....	78	Surety Rubber Co., The.....	75
Colorado Fuel & Iron Corporation, The, Wickwire Spencer Steel Division.....	73	T	
Crane Co.....	49	Tide Water Associated Oil Co.....	12
E		Towmotor Corporation.....	55
Eutectic Welding Alloys Corp.....	77	Truesdail Laboratories, Inc.....	78
F		U	
Flexible Steel Lacing Co.....	75	Union Oil Company of California.....	28
Fruehauf Trailer Company of California.....	24	V	
G		Victor Equipment Company.....	61
Galland-Henning Mfg. Company.....	63	W	
J		Western Packaging and Materials Handling Exposition & Conference.....	79
Johnson Steel and Wire Co., Inc.....	54	Westinghouse Electric Corporation.....	14 & 15
Johnston, A. P., Company.....	82	White Motor Co.....	16
Jorgensen, Earle M., Co.....	13	Wickwire Spencer Steel Division of the Colorado Fuel & Iron Corporation.....	73
K			
Kaiser Steel Corporation.....	6		

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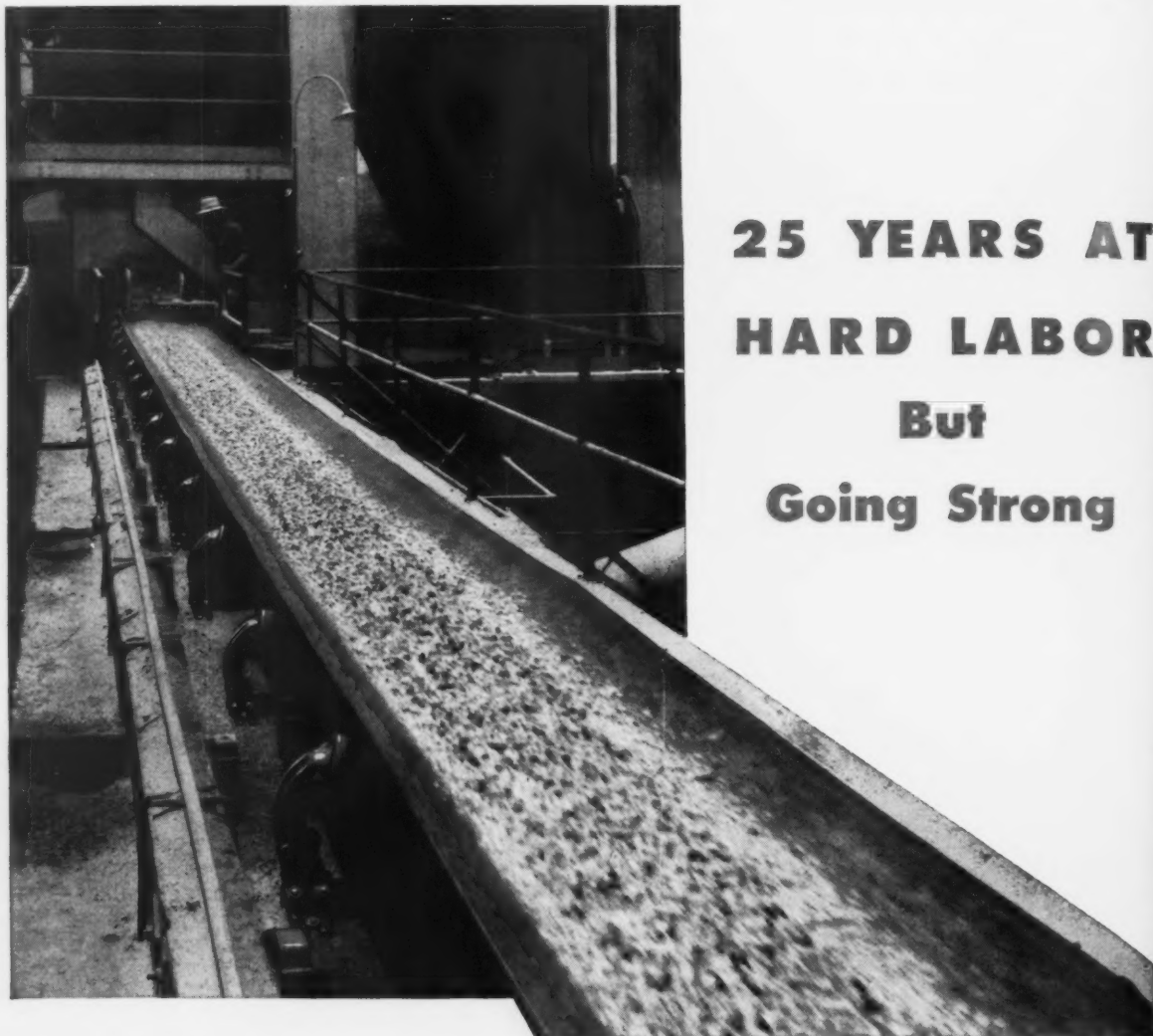
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